



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sandhu et al.

Serial No: 09/439,314

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For: DEVICE FOR IN-SITU CLEANING
OF AN INDUCTIVELY-COUPLED PLASMA
CHAMBER

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APPLICANTS' BRIEF ON APPEAL

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Appendix 5: *In re Venezia*, 530 F.2d 956, 189 U.S.P.Q. 149 (C.C.P.A. 1976)

Appendix 6: *United States Surgical Corp. v. Ethicon Inc.*, 103 F.3d 1554, 41 U.S.P.Q.2d 1225 (Fed. Cir. 1997), *cert. denied*, 522 U.S. 950 (1997)



APPLICANTS' BRIEF ON APPEAL

I. REAL PARTY IN INTEREST

The Applicants, Gurtej S. Sandhu and Sujit Sharan, have assigned their interest in this application to Micron Technology, Inc.

II. RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to the Applicants or the assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF THE CLAIMS

Claims 1-69 have been presented during prosecution of the application under appeal.

Claims 1-40 have been canceled.

Claims 41-69 are pending.

Claims 41-69 are rejected.

Claims 41-69 are appealed.

IV. STATUS OF THE AMENDMENTS

Applicants filed no amendments subsequent to final rejection.

V. SUMMARY OF THE INVENTION

The current invention addresses a device for *in-situ* cleaning of an inductively coupled plasma chamber. One exemplary embodiment concerns a semiconductor fabrication system comprising a reaction device that is configured to inductively generate a plasma. (Specification at p. 7, ln. 19 – p. 8, ln. 2; FIG. 1.) The plasma, in turn, comprises an induction blocker, and the

reaction device is configured to accept that induction blocker in an area that blocks plasma induction. (*Id.* at p. 4, ln. 3-11; p. 8, ln. 8 – p. 9, ln. 14.) The semiconductor fabrication system further comprises a component that is coupled to the reaction device and that is configured to provide the reaction device with an induction blocker remover. (*Id.* at p. 9, ln. 5 – p. 10, ln. 14.) In a preferred exemplary embodiment, the component is a second reaction device that is configured to generate a second plasma comprising the induction blocker remover. (*Id.* at p. 9, ln. 19 – p. 10, ln. 5.)

In another exemplary embodiment, a wafer processing system comprises a reactor having a wafer fabrication mode and a reactor cleaning mode. (*Id.* at p. 7, ln. 19-28; p. 9, ln. 8-17; FIG. 1.) In the wafer fabrication mode, the reactor is configured to receive a metal-containing gas and further configured to locally generate a plasma. (*Id.* at p. 9, ln. 8-14.) In the reactor cleaning mode, the reactor is configured to receive a metal etchant and further configured to refrain from locally generating a plasma. (*Id.* at p. 9, ln. 19 – p. 10, ln. 7; *see also* p. 4, ln. 3-11 and p. 9, ln. 16 (disclosing the blocking of power coupling).) In a more specific exemplary embodiment of this type, the reactor interior is free of any wafer during the cleaning mode (*id.* at p. 9, ln. 14-16), and the metal etchant is transmitted in a non-plasma form during that mode (*id.* at p. 10, ln. 4-14).

Other exemplary embodiments of the current invention address a plasma processing system, a furnace assembly, a cleaning apparatus, a metal processing system, and a plasma generation system.

VI. ISSUES

There are three issues for determination on appeal:

(1) whether the Examiner has failed to satisfy the burden for a novelty rejection based on the Kumagai reference;

(2) whether the Examiner has failed to satisfy the burden for a novelty rejection based on the Shang reference; and

(3) whether the Examiner has failed to satisfy the burden for an obviousness rejection based on the Shang and Lantsman references.

VII. GROUPING

Applicants define the following groups of claims for consideration upon this appeal. These groups correspond to the issues listed above.

Group I: claims 41-44 and 50-56 (the claims do not necessarily fall together);

Group II: claims 57-59 (the claims do not necessarily fall together); and

Group III: claims 45-49 and 60-69.

VIII. ARGUMENT:

A. The Examiner has failed to satisfy the burden for the novelty rejections

The Examiner rejected various subsets of the pending claims as being anticipated by either Kumagai (U.S. Pat. No. 5,916,455) or Shang (U.S. Pat. No. 5,788,778). Applicants address each basis for rejection separately below. Applicants also note that each independent claim rejected as being anticipated expresses limitations that are distinct from the other independent claims. In addition, while each dependent claim benefits from the limitations expressed in the claims on which it depends, each dependent claim also benefits from additional expressed limitations and arguments directed thereto. As a result, in the event the Board finds one of Applicants' arguments unpersuasive, the claims do not necessarily fall together.

1. The Examiner has failed to satisfy the burden for a novelty rejection based on Kumagai

The Final Office Action rejected claims 41-44 and 50-56 as being anticipated by Kumagai, citing the reasoning in the previous Office Action. (Office Action dated 12/3/02 at p. 2 (citing Office Action dated 5/28/02 at p. 2-3).) In that previous Office Action, the Examiner reasoned that Kumagai discloses components that are "structurally equivalent" to *some* of the claim limitations. (Office Action dated 5/28/02 at p. 2-3.) Applicants contend that the

Examiner's reasoning in that Office Action fails to address *all* of the claim limitations, thereby failing to meet the burden for rejection. Moreover, an analysis of Kumagai's disclosure demonstrates that it discloses only the opposite of at least some of the claim limitations, thereby indicating that the burden for rejection cannot be met relying on Kumagai. Further, the Examiner's use of the phrase "structurally equivalent" in a novelty rejection demonstrates the legal impropriety of these attempted rejections.

a) Limitations not addressed by the Examiner and Kumagai's failure to disclose them

Concerning the limitations not addressed by the Examiner and Kumagai's failure to disclose them, claim 41 requires a second chamber that is configured to initially generate a second plasma therein and further configured to lose an ability to generate that second plasma. Moreover, the second chamber is configured to receive another plasma that is configured to restore that ability. Kumagai discloses no such chamber configuration. The only Kumagai chambers identified by the Examiner are the plasma ignition device (element 30) and vacuum chamber (element 11). (Office Action dated 5/28/02 at p. 2-3.) However, Kumagai configures neither of those chambers to lose the ability to generate plasma. Kumagai in fact discloses only the exact opposite – with both chambers configured to always be ready to generate plasma. Kumagai's summary, for instance, discloses an embodiment wherein the ignition chamber produces a seed plasma that allows the vacuum chamber to generate a low pressure plasma. (Kumagai at col. 2, ln. 20-28 and ln. 40-43.) Kumagai addresses this further in the detailed description of the invention.

Thus, the plasma from the interior of the ignition cylinder (31) becomes a seed, and a plasma is therefore readily generated in the vacuum chamber.

(*Id.* at col. 5, ln. 5-7.) Later in the detailed description, Kumagai further suggests the readiness of both chambers to generate plasma.

The high density plasma generated in the ignition device is introduced into the vacuum chamber as seed plasma. Therefore, a

stable plasma can be generated and maintained even though the pressure inside the vacuum chamber is relatively low.

(*Id.* at col. 6, ln. 15-19; *see also* Abstract.)

If Kumagai's plasma ignition device were configured to lose the ability to generate plasma, the whole purpose of Kumagai's invention would be defeated. Kumagai goes even further in addressing its vacuum chamber, warning that it is configured to generate too strong a plasma that risks etching the chamber walls. (*Id.* at col. 1, ln. 41-48.) In disclosing only the exact opposite of a limitation in claim 41, Kumagai cannot be read as anticipating that claim or its dependent claims 42-44.

Moreover, dependent claim 42 contains an additional limitation concerning the second chamber's configuration in terms of the loss of the ability to generate a second plasma. Specifically, claim 42 requires that the second chamber be configured to lose the ability to generate the second plasma *in response to a generation of that plasma*. Claim 42 also requires that the second chamber be configured to regain the ability in response to a reception of another plasma. As Kumagai fails to disclose any of its chambers being configured to generally lose the ability to generate plasma, Kumagai necessarily fails to disclose the narrower configuration concerning the loss of the ability to generate plasma as well as the configuration concerning regaining that ability. Dependent claims 43-44 benefit from such distinctions as well.

Claim 50 requires a device that is configured to inductively generate a plasma, wherein the plasma comprises an induction blocker, and wherein the device is further configured to accept the induction blocker in an area that blocks plasma induction. The Examiner has failed to indicate where either of Kumagai's chambers are disclosed as being configured in this manner. Moreover, the fact that both of Kumagai's chambers appear ready at all times to induce plasma suggests that Kumagai's chambers cannot be interpreted to disclose such configurations. (*See* Kumagai at col. 1, ln. 41-48; col. 2, ln. 20-28; col. 2, ln. 40-43; col. 5, ln. 5-7; col. 6, ln. 15-19 (addressed above).) Dependent claims 51-53 benefit accordingly.

Furthermore, dependent claim 52 further qualifies the configuration requirements of claim 50's device, requiring that the device comprise a quartz component that is configured to accept the induction blocker thereon. As Kumagai fails to disclose claim 50's broad configuration concerning an induction blocker, Kumagai necessarily fails to disclose the narrower induction blocker configuration specified in claim 52 and its dependent claim 53.

Claim 54 concerns a cleaning apparatus for an inductively-coupled plasma chamber, comprising a cleaning chamber that is configured to provide a metal-cleaning gas to the plasma chamber. Applicants assert that neither of Kumagai's chambers cited by the Examiner disclose all of claim 54's requirements for the cleaning chamber. Kumagai's plasma ignition device is not configured to provide a metal-cleaning gas. Rather, Kumagai's plasma ignition device is configured to provide an inert plasma-generating gas. (Kumagai at col. 2, ln. 17-19; col. 4, ln. 1-col. 5, ln. 7.) Any attempt to analogize Kumagai's plasma-generating gas to a cleaning gas, let alone a metal-cleaning gas, is questionable given that Kumagai also teaches providing a discrete etching gas from elsewhere. (*Id.* at col. 3, ln. 29-31; col. 5, ln. 8-15.) As for Kumagai's vacuum chamber, it is not configured to provide a metal cleaning gas to another plasma chamber. Hence, it, too, fails to address all of claim 54's limitations. These limitations are incorporated into dependent claims 55 and 56, each of which contain additional limitations concerning the cleaning chamber, thereby further emphasizing their novelty.

b) Examiner's previous indication that Kumagai is insufficient to support a novelty rejection.

Applicants note that, earlier in prosecution, the Examiner attempted to reject these claims under Kumagai based on an argument using slightly different wording. (Office Action dated 8/30/00; Office Action dated 5/22/01.) In a previous Appeal Brief, Applicants presented counter-arguments similar to those presented in this current Appeal Brief. (Appeal Brief submitted 1/15/02 at p 3-5.) Applicants note that the counter-arguments appear to have been sufficient to refute the previous Kumagai rejection, as the subsequent Kumagai rejection relies on different wording. (*Compare* Office Action dated 8/30/00 *and* Office Action dated 5/22/01 *with* Office Action dated 5/28/02 *and* Office Action dated 12/3/02.) Applicants contend that such arguments are equally sufficient to refute the current Kumagai rejection.

c) The Examiner's inappropriate reliance on "structurally equivalent" arguments

The Examiner's latest Kumagai rejection raises other issues as well. In attempting to support the rejection, the Examiner argued that certain Kumagai components are "structurally equivalent" to parts of the rejected claims. (Office Action dated 5/28/02 at p. 2-3.) Binding case precedent holds, however, that anticipation may not be shown by equivalents. (*Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 853 (1989).) In *Richardson*, the jury had been instructed that anticipation could be established by a reference's disclosure of every claim element or its equivalent. (*Id.*) The Court indicated that such an instruction was erroneous, reasoning that equivalents are pertinent to obviousness under §103, not anticipation under §102. (*Id.* at 1920-1921). The facts in this case are analogous: in a manner echoing *Richardson*'s jury instructions, the Examiner is attempting to argue that anticipation is established by Kumagai's disclosure of a structure equivalent to some of those in the claim limitations. Thus, for the same reasoning as that presented in *Richardson*, the Examiner's argument is erroneous. As a result, the Examiner's failure to meet the burden for a novelty rejection is further demonstrated.

Moreover, "structurally equivalent" arguments appear to be relevant only to means plus function limits. (*In re Bond*, 910 F.2d 831, 15 U.S.P.Q.2d 1566, 1568 (Fed. Cir. 1990). Copies of the cases cited in this Appeal Brief are included in appendices.) In addressing whether Bond's claimed delay means were disclosed by the prior art, the Court noted that the prior art's structures were not identical to the structures that were disclosed in Bond's specification and supported the "delay means" claim limitations. (*Id.* at 1567-1568.) Nonetheless, the Court noted that Bond's "delay means" was a "means-plus-function" limitation that covered not only the structures expressed in the disclosure but also equivalents thereof. (*Id.*) Hence, the Court indicated that further inquiry was warranted concerning whether the prior art did indeed disclose an equivalent to the structures in Bond's disclosure. (*Id.*) Rather, than make that decision itself, the Federal Circuit remanded to the Patent and Trademark Office, reasoning that structural equivalency is relevant to §112 ¶6 (concerning means plus function limitations) and is therefore a question of fact. (*Bond*, 15 U.S.P.Q.2d at 1568-69.) In contrast, the claims at issue do not contain "means plus function" limitations, hence the Examiner's discussion of "structural

equivalents” has no bearing on their novelty and still further demonstrates the Examiner’s failure to meet the burden for a novelty rejection.

d) The Examiner’s attempt to answer to Applicants’ arguments

As mentioned above, the current rejections were first raised before the final Office Action. (See Office Action dated 5/28/02 at p. 2-3.) Accordingly, Applicants have refuted these rejections previously in the Response transmitted 8/28/02. As a result, the final Office Action includes an answer to Applicants’ refutation. (Office Action dated 12/3/02 at p. 2-3.) Applicants address the points raised by the Examiner’s answer separately below.

i. The Examiner’s mischaracterization of the claim limitations

The Examiner began the answer by arguing that the term “configured” used in the limitations addressed above in part (a) makes those limits “means plus function” limits. Applicants contend that applying the proper standards for determining whether a limitation is directed to a “means plus function” demonstrates otherwise. A claim limit that refrains from using the term “means” enjoys a presumption that the limit is not a “means plus function” limit. (*Watts v. XL Systems Inc.*, 232 F. 3d 877, 56 U.S.P.Q.2d 1836, 1838 (Fed. Cir. 2000).) In determining whether the presumption is rebutted, the focus is whether the claim recites sufficiently definite structure. (*Id.*) The Federal Circuit has further indicated that the claim limit need not connote a precise physical structure. (*Id.*) The claim limit at issue in *Watts* concerned joints, each of having an end that is

formed with tapered external threads dimensioned such that one such joint may be sealingly connected with another such joint.

(*Id.* at 1837.) The Federal Circuit found that this limit included terms such as “end” and “thread” that are reasonably understood to be names for structure. (*Id.* at 1839.) That finding, combined with the specification demonstrating that the structures satisfy the language of the limitation in which they appear, resulted in this language imparting sufficient structure such that the claim limit was not a “means plus function” limit. (*Id.*)

By comparison to the claim limit in *Watts* and by application of the standards articulated in that case, Applicants contend that the “configured” limits addressed above in part (a) also impart sufficient structure such that they are not “means plus function” limits. For example, one of claim 41’s configurations refers to a second chamber configured to generate a plasma “therein.” The term “therein” necessarily alludes to the term “chamber,” which is reasonably be understood to be a structure, thereby indicating structure in that claim 41 limitation as well as any other limitation in claims 41-44 concerning a configuration relating to plasma generation. Further, the current Specification also demonstrates, without limitation, a chamber that satisfies claim 42’s configuration requirements – see the Specification’s text related to reaction chamber 12 and that chamber’s antenna 26 and related components.

As another example, one of claim 50’s configurations addressed above in part (a) refers to an induction blocker structure. That configuration also refers to an area that blocks plasma induction, wherein the reference to an “area” necessarily alludes to the device itself that is configured to generate plasma. Further, the current Specification also demonstrates, without limitation, the induction blocker, the area that blocks plasma induction, and the device configured to generate plasma. (*See* Specification at p. 4, ln. 10-11; p. 4, ln. 30-p. 5, ln. 1; p. 5, ln. 16-18, 24-25; p. 9, ln. 15; p. 10, ln. 24-25.) Dependent claim 52 specifies that the “area” is a quartz component, which again is reasonably understood to be a name for a structure and benefits from the Specification demonstrating that it may accept an induction blocker. (Specification at p. 4, ln. 18; p. 7, ln. 27-28.)

As mentioned above, claim 54 includes a limitation wherein a cleaning chamber is configured to provide a metal-cleaning gas to the plasma chamber. Applicants contend that the term “plasma chamber” is reasonably understood to be a name for a structure. In addition, the Specification demonstrates without limitation a cleaning chamber configured to provide a metal-cleaning gas to the plasma chamber. (Specification at p. 9, ln. 19-29.)

Further, the analogy of the relevant claim limits to those in *Venezia*, discussed previously in prosecution and below in part iii, also supports Applicants’ contention that those limits impart sufficient structure such that they are not “means plus function” limits .

ii. The Examiner's misinterpretation of Kumagai

The Examiner then attempted to argue that Kumagai's device is capable of satisfying some of the "configured" limits. For example, given claim 41's requirement of a second chamber configured to lose an ability to generate a second plasma, the Examiner speculated that Kumagai's device met that limitation when the "plasma generator" was turned off. (Office Action dated 12/3/02 at p. 3.) However, as addressed above in part (a), claim 41's second chamber is further configured to receive another plasma that, in turn, is configured to restore the ability of the second chamber to generate the second plasma. Applicants assert that the on/off state of Kumagai's "plasma generator" fails to disclose this combination of configurations expressed in claim 41 and incorporated in claims 42-44.

Moreover, dependent claim 42 further details the requirement of the second chamber being configured to lose an ability to generate a second plasma. Again, as addressed above in part (a), claim 42 requires that the second chamber be configured to lose the ability to generate the second plasma *in response to a generation of that plasma*. Claim 42 also requires that the second chamber be configured to regain the ability in response to a reception of another plasma. Applicants contend that the Examiner's reliance on the on/off state of Kumagai's "plasma generator" fails to an even greater degree to address such configurations expressed in claim 42 and incorporated in claims 43-44.

Similarly, it is unclear to Applicants how the on/off state of Kumagai's "plasma generator," or any other point raised in the Examiner's answer, discloses the requirement in claims 50-53 of a device configured to accept an induction blocker in an area that blocks plasma induction. Further, dependent claims 52-53 require a quartz component configured to accept the induction blocker thereon, thereby causing Kumagai's device to fail to an even greater degree in addressing such configurations.

As for the requirement in claims 54-56 of a cleaning chamber that is configured to provide a metal-cleaning gas to a plasma chamber, the Examiner answered that Kumagai's plasma ignition device (element 30) is equivalent to the cleaning chamber because Kumagai's plasma ignition device is configured to house a gas capable of etching metal. However, as mentioned above and previously during prosecution, Kumagai's plasma ignition device is not configured to either house or provide a metal-cleaning gas. Rather, Kumagai's plasma ignition

device is configured to provide an inert plasma-generating gas. (Kumagai at col. 2, ln. 17-19; col. 4, ln. 1- col. 5, ln. 7.) Any attempt to analogize Kumagai's plasma-generating gas to a cleaning gas, let alone a metal-cleaning gas, is questionable given that Kumagai also teaches providing a discrete etching gas from elsewhere. (*Id.* at col. 3, ln. 29-31; col. 5, ln. 8-15.)

iii. The Examiner's continued mischaracterization of the claim limitations

Finally, the Examiner indicated that the claims contain language relating function rather than structure, and that such language cannot differentiate the devices in those claims from Kumagai's apparatus. Applicants presume that the Examiner's comments continue to be directed to the phrases in the claims that begin with "configured to" The Examiner cited as support for the rejections *In re Danly* 120 U.S.P.Q. 528 (C.C.P.A. 1959); *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 15 U.S.P.Q.2d 1525 (Fed. Cir. 1990); and *Ex parte Masham* 2 U.S.P.Q.2d 1647 (Bd. Pat. App. & Inter. 1987).

Applicants assert that another relevant case is *In re Venezia*, (530 F.2d 956, 189 U.S.P.Q. 149 (C.C.P.A. 1976)) and that *Venezia* supports the notion that the "configured to" limitations at issue are actually structural limitations that meet the requirements of *Danly*, *Hewlett-Packard*, and *Masham*. The limitations for the connector assembly at issue in *Venezia* concerned (1) a pair of sleeves, wherein each sleeve is "adapted to be fitted over" the insulating jacket of a cable addressed in the claim's preamble, and (2) a pair of retaining members "adapted to be positioned" between the sleeves. (*Venezia*, 189 U.S.P.Q. at 150.) Focusing first on the limitations concerning the sleeves, the court found that the "adapted to" language was more than a mere direction of activities. (*Id.* at 151-52.) Rather, the court found that the language imparted a structural limitation to the sleeves. (*Id.* at 152.) Specifically, the language required each sleeve to be so structured or dimensioned that it can be fitted over the insulating jacket of a cable. (*Id.*) Similarly, the court found that the "adapted to" language limiting the retaining members provided sufficient structure. (*Id.*) The court concluded by stating the following:

We see nothing wrong in defining the structures of the components . . . in terms of the interrelationship of the components, or the attributes they must possess

(*Id.*)

The “configured to” language in the relevant appealed claims is analogous to the “adapted to” language in *Venezia*’s claim. Claim 41, for instance, requires a first chamber configured to generate a first plasma therein. This language requires the first chamber to be so structured and dimensioned that it can generate a first plasma therein. Claim 41 further requires a second chamber configured to initially generate a second plasma therein, further configured to lose an ability to generate the second plasma, and configured to receive the first plasma. Thus, the second chamber must be so structured and dimensioned that it can initially generate a second plasma therein, lose the ability to generate that second plasma, and receive the first plasma. Applicants further note that, by addressing the first plasma in both the first chamber and the second chamber, the “configured to” language provides further limitations concerning the structural interrelationship between the two components, as warranted by *Venezia*. The dependent claims 42-44 also benefit accordingly.

The dependent claims 42-44 also provide additional structural and dimensional limitations. Specifically, one of claim 42’s “configured to” limitations addressed above requires the second chamber be so structured and dimensioned as to lose the ability to generate the second plasma in response to a generation of that plasma. Another of claim 42’s “configured to” limitations addressed above further requires the second chamber be so structured and dimensioned as to regain the ability in response to a reception of the first plasma. Dependent claims 43-44 further benefit accordingly.

In continued accordance with *Venezia*, the “configured to” language in the other relevant claims imparts structural attributes to each component as well as a structural interrelationship between the claims’ components. For instance, one of claim 50’s “configured to” limitations, again mentioned above, requires a reaction device so structured and dimensioned as to accept a plasma’s induction blocker in an area that blocks plasma induction. Another of claim 50’s “configured to” limitations requires a component be so structured and dimensioned as to provide the reaction device with an induction blocker remover. Thus, not only do each of these “configured to” limitations individually indicate structure and dimension of their respective elements, but such limitations in combination also serve to structurally interrelate the elements

by way of their induction blocker/remover references. Dependent claims 51-53 incorporate these structural and dimensional limitations as well. Dependent claim 52 is further expressly limited to the device comprising a quartz component so structured and dimensioned as to accept the induction blocker thereon. Dependent claim 53 also incorporates this structural limitation and includes yet another structural limitation in the form of its own expressed “configured to” limitation.

Independent claim 54’s “configured to” limitation requires a cleaning chamber so structured and dimensioned as to provide a metal-cleaning gas to a plasma chamber. Dependent claims 55 and 56 incorporate this structural limitations and express their own “configured to” limitations that impart still further structural and dimensional limitations.

As a result, *Venezia* indicates that such language necessarily (1) applies to structure rather than function, as required by *Danly*; (2) covers what the device is rather what the device does, as required by *Hewlett-Packard*; and (3) does not merely recite the manner in which a claimed apparatus is intended to be employed but rather addresses previously undisclosed structural limitations, as required by *Masham*. Furthermore, such language imparts sufficient structure as required by *Watts*, addressed above in part i, to demonstrate that these limits are not “means plus function” limits.

2. The Examiner has failed to satisfy the burden for a novelty rejection based on Shang

The final Office Action rejected claims 57-59 as being anticipated by Shang, citing the reasoning in the previous Office Action. (Office Action dated 12/3/02 at p. 2 (citing Office Action dated 5/28/02 at p. 3).) As with the Kumagai rejection, Applicants contend that the Examiner has failed to address *all* of the claim limitations as Shang applies to them, thereby failing to satisfy the burden for rejection. Moreover, an analysis of Shang’s disclosure demonstrates that it discloses only the opposite of at least some of the claim limitations, thereby indicating that the burden for rejection cannot be met relying on Shang.

Independent claim 57, for instance, requires a reactor that is configured to refrain from locally generating a plasma during the reactor’s cleaning mode. In the Office Action dated 5/28/02, the Examiner failed to articulate which Shang elements correspond to claim 57’s

elements. Assuming that the Examiner intended to analogize Shang's deposition chamber (10) to claim 57's reactor, Applicants note that, when addressing the deposition chamber's role during that chamber's cleaning, Shang expressly encourages a configuration that generates a local plasma. (Shang at col. 3, ln. 1-9; col. 6, ln. 43-44.) Thus, having disclosed only the opposite of the relevant limitation in claim 57, Shang cannot be interpreted as disclosing that limitation even if the Examiner had attempted to address it. As a result, the Examiner has not and cannot meet the burden for rejecting claim 57 by relying on Shang. Dependent claims 58 and 59 benefit accordingly. Because the Examiner raised this Shang rejection in an earlier Office Action, Applicants have already raised this counter-argument (*see* Response transmitted 8/28/02).

What has not been raised previously is an additional point that further highlights the distinction of dependent claim 59. Dependent claim 59 further limits a chamber expressed in claim 57. (Claim 57 addresses a chamber configured to couple to the reactor mentioned above.) Claim 59 adds that the chamber is configured to transmit a metal etchant in *non-plasma form* to the reactor. Assuming the Examiner intended to analogize Shang's deposition chamber (10) to claim 57's reactor, it follows that the Examiner intended to analogize Shang's remote chamber (46) to the chamber in claims 57-59. However, the analogy fails in that Shang discloses only that its remote chamber is configured to transmit a gas in *plasma form* to Shang's deposition chamber (10). (Shang at Title (specifying a remote activation source); Abstract (disclosing activating gas in the remote chamber); col. 2, ln. 38-39, 47-48, 63-65; col. 3, ln. 14-15, 32-35, 44-46; col. 4, ln. 43-44, 54-57; col. 5, ln. 11-14, col. 6, ln. 42; claims 1-21; FIG. 1 (illustrating a high power microwave generator coupled to the remote chamber).) Once again, having disclosed only the opposite of the relevant limitation, Shang cannot be interpreted as disclosing that limitation even if the Examiner had attempted to address it.

Because Applicants have previously presented some arguments against this rejection, the Examiner attempted to answer those arguments in the final Office Action. Contrary to Applicants' assumption above and in the previous Response, it appears in the final Office Action that the Examiner attempts to analogize Shang's remote chamber (element 46), rather than Shang's deposition chamber (10), to claim 57's reactor. (*See* Office Action dated 12/3/02 at p. 4.)

As mentioned above, however, claim 57's reactor is required to have a reactor cleaning mode – a mode concerning its own cleaning. Applicants contend that nowhere does Shang

disclose that its remote chamber is required to have a mode concerning its own cleaning. Rather, Shang discloses only that the remote chamber have a mode concerning the cleaning of another chamber -- the deposition chamber (10). (Shang at Title; Abstract; col. 2, ln. 34-35 (Summary); col. 5, ln. 7-8; claims 1-8, 10, 19-21.)

As also indicated above, claim 57's reactor must be configured to refrain from locally generating a plasma *during that reactor cleaning mode*. In addition to failing to disclose the proper cleaning mode, Shang fails to disclose that its remote chamber is configured to refrain from locally generating a plasma during any cleaning mode. Rather, as discussed above, Shang expressly discloses only a remote chamber configured to *affirmatively* generate a local plasma during the deposition chamber cleaning mode. (Shang at Abstract; col. 2, ln. 38-39, 47-48, 63-65; col. 3, ln. 14-15, 32-35, 44-46; col. 4, ln. 43-44, 54-57; col. 5, ln. 11-14, col. 6, ln. 42; claims 1-21; FIG. 1.)

The Examiner argues that claim 57's "refraining" configuration is anticipated by turning off Shang's "plasma generator." (Office Action dated 12/3/02 at p. 4.) Presumably the Examiner is referring to the high power microwave generator 48 coupled to Shang's remote chamber 46. However, the Examiner's argument is in contradiction to the Shang disclosure cited immediately above. Applicants reiterate that Shang does not configure its remote chamber to refrain from generating plasma *during a cleaning mode*. Instead, Shang configures its remote chamber to actively generate plasma during a cleaning mode. Shang further emphasizes such configurations in describing the background art, which also involves configuring devices for active plasma generation during cleaning. (Shang at col. 1, ln. 29-37; col. 2, ln. 3-8.) Moreover, Shang's remote chamber is configured to generate plasma even in non-cleaning modes. (*Id.* at col. 6, ln. 39-46.) Thus, having disclosed only the opposite of the relevant limitations in claim 57, Shang cannot be interpreted as disclosing those limitations even now that the Examiner has attempted to address them.

Additionally, because the Examiner intended to analogize Shang's remote chamber (46) to claim 57's reactor, it follows that the Examiner intended to analogize Shang's deposition chamber (10) to the chamber in claims 57-59. However, the analogy once again fails, especially in light of dependent claim 59. That claim requires that the chamber be configured to transmit a metal etchant to the reactor during the cleaning mode. However, nowhere does Shang disclose that its deposition chamber (10) is configured to transmit anything to the remote chamber (46) in

any mode, cleaning or otherwise. Rather, Shang's disclosure is devoted to the exact opposite – Shang's deposition chamber (10) is configured only to *receive* material from the remote chamber (46). (Shang at Abstract (disclosing flowing reactive species from the remote chamber to the deposition chamber); col. 2, ln. 41-42, 66-67; col. 3, ln. 3-4, 19-20, 47-49; col. 4, ln. 48-52 (addressing flow restrictor 59), 53-58; col. 5, ln. 15-30 (indicating that the pressure in the remote chamber is higher than the deposition chamber); claims 1-21.) Thus, once again, having disclosed only the opposite of the relevant limitation, Shang cannot be interpreted as disclosing that limitation even if the Examiner had attempted to address it.

B. the Examiner has failed to satisfy the burden for an obviousness rejection based on the Shang and Lantsman references

The Examiner rejected claims 45-49 and 60-69 as obvious in light of Shang in combination with Lantsman (U.S. Pat. No. 5,573,597). An obviousness rejection, however, requires that the multiple prior art references teach, suggest, or provide an incentive to one of ordinary skill in the art to combine the references. (*See United States Surgical Corp. v. Ethicon Inc.*, 103 F.3d 1554, 1564, 41 U.S.P.Q.2d 1225, 1233 (Fed. Cir. 1997), *cert. denied*, 522 U.S. 950 (1997).) Applicants assert that the cited references in fact teach away from each other and therefore discourage their combination. Moreover, the very text cited by the Examiner supports this assertion.

Specifically, the Examiner relies upon Shang's disclosure concerning cleaning the film from a chamber's inner surfaces, wherein that film resulted from a deposition process. (Office Action dated 12/3/02 at p. 2 (citing Office Action dated 5/28/02 at p. 4 (citing Shang at col. 1, ln. 23-29 and col. 4, ln. 4-63)).) Significantly, the Examiner also admits that Lantsman discloses deposits forming on the inner surfaces of its processing chamber. (Office Action dated 5/28/02 at p. 4 (inadvertently referring to "Tobin" instead of "Lantsman;" *see* Office Action dated 12/3/02 at p. 4).) A careful review of that portion of Lantsman in context with the rest of Lantsman's disclosure highlights the conflict between the two references. Namely, Lantsman discloses that particle generation may be due to accumulation and peeling of deposits from surfaces within the processing chamber. (Lantsman at col. 1, ln. 48-51.) However, rather than address the prevention or removal of deposits from surfaces within the processing chamber, Lantsman instead appears content to simply keep the particles away from the wafer being

processed. (*Id.* at col. 2, ln. 10-11.) It does this by biasing the substrate or nearby electrode in a manner that repels the particles. (*Id.* at col. 2, ln. 26-33, 47-51; col. 3, ln. 33-40; col. 4, ln. 34-49; col. 5, ln. 22-25; col. 6, ln. 11-14, 28-40; claims 1-26; FIGS. 1-4.)

Thus, to one of ordinary skill in the art bearing in mind Lantsman's teachings, Shang's high power remote excitation configuration appears to add unnecessary complexity to Lantsman's processing chamber and method, as all that is necessary according to Lantsman is to keep contaminants from the inner surfaces of Shang's chamber away from the wafer. Conversely, such an artisan bearing in mind Shang's teachings would view Lantsman as inviting wafer contamination – the very circumstance Lantsman seeks to avoid – by allowing deposits to remain on its inner chamber surfaces. Such contradictions would discourage one of ordinary skill in the art from even attempting to combine these references.

Further, assuming *arguendo* that one of ordinary skill in the art would be motivated to clean Lantsman's processing chamber at some point, the single-chamber nature of Lantsman's system would suggest to the ordinary artisan that such cleaning can be performed *in situ*. Every one of Lantsman's illustrated embodiments, for example, depicts only one chamber – the processing chamber. (Lantsman at FIGS. 1, 3, and 4.) It is also noteworthy that Lantsman in no way indicates that the deposits it allows to accumulate interfere with generating a plasma in that chamber. (See *id.* at col. 1, ln. 46-62.) As a result, Lantsman appears to one of ordinary skill in the art to be in conflict with Shang's teachings, which articulate the problems associated with *in situ* cleaning. (Shang at col. 1, ln. 38-col. 2, ln. 2.) Thus, to one of ordinary skill in the art bearing Lantsman's teachings in mind, Shang's high power remote excitation configuration appears to be even more unnecessary in terms of device and method complexity. Conversely, such an artisan bearing Shang's teachings in mind would view Lantsman as inviting damage to hardware as well as the generation of residues and byproducts than can only be removed by physically wiping the contaminated chamber surfaces. As a result, one of ordinary skill in the art is even further discouraged from attempting to combine the references.

C. Conclusion

The Examiner has failed to satisfy the burden for a novelty rejection based on the Kumagai reference. The Examiner's main argument (cited from an earlier Office Action) fails to

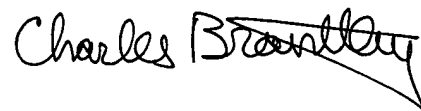
address certain claim limitations. The Examiner's supplemental arguments (expressed in the final Office Action) mischaracterize those limitations. Rather than being directed to function, case precedent demonstrates that such limitations are directed to structure. The Examiner also misinterprets Kumagai in attempting to argue that it discloses those limitations. In fact, Kumagai discloses only the opposite of such limitations, making untenable any Kumagai-based novelty rejection of claims 41-44 and 50-56.

The Examiner has also failed to satisfy the burden for a novelty rejection based on the Shang reference. Once again the Examiner's main argument (cited from the earlier Office Action) fails to address certain claim limitations. The Examiner's supplemental arguments (expressed in the final Office Action) still fail to address all of the claim limitations, as the newly articulated analogy to Shang fails under scrutiny. In fact, Shang discloses only the opposite of such limitations, making untenable any Shang-based novelty rejection of claims 57-59.

In addition, the Examiner has failed to satisfy the burden for an obviousness rejection based on the Shang and Lantsman references. Their general principles and specific teachings conflict to such a degree that one of ordinary skill in the art would be actively discouraged from combining them. Hence, any obviousness rejection (of claims 45-49 and 60-69 or any others) relying on those references fails.

As a result, Applicants respectfully request that the Board reverse the Examiner, withdraw the rejections, and allow the appealed claims.

Respectfully submitted,

A handwritten signature in black ink that reads "Charles Brantley". The signature is written in a cursive style with a large, sweeping flourish at the end.

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Appendix 1: Copy of Involved Claims

41. A plasma processing system, comprising:
- a first chamber configured to generate a first plasma therein; and
 - a second chamber coupled to said first chamber, wherein said second chamber is configured to initially generate a second plasma therein, further configured to lose an ability to generate said second plasma, and configured to receive said first plasma, wherein said first plasma is configured to restore said ability.
42. The system in claim 41, wherein said second chamber is configured to lose said ability in response to a generation of said second plasma, and further configured to regain said ability in response to a reception of said first plasma.
43. The system in claim 42, wherein said second chamber is a tube furnace.
44. The system in claim 43, wherein said first chamber is a tube furnace.
45. A furnace assembly, comprising:
- a structure defining a furnace interior, wherein at least a part of said structure is transparent to a radio-frequency wave, wherein said structure is configured to receive a first material that is opaque to said wave, and wherein said structure is configured to interpose between a source of said wave and said first material; and
 - a delivery system in fluid communication with said interior defined by said structure,

said system configured to deliver a second material to said first material, wherein said second material is reactable with said first material.

46. The furnace assembly in claim 45, wherein said delivery system is configured to deliver an etchant.

47. The furnace assembly in claim 46, wherein said delivery system is configured to deliver a second material selected from a group comprising fluorine, chlorine, bromine, hydrogen chloride, hydrogen fluoride, hydrogen bromide, sulphur hexafluoride, nitrogen trifluoride, carbon tetrachloride (CCl_4), carbon tetrafluoride (CF_4), chlorine monofluoride (ClF), chlorine trifluoride (ClF_3), bromine chloride (BrCl), bromine monofluoride (BrF), bromine trifluoride (BrF_3), bromine pentafluoride (BrF_5), iodine monobromide (IBr), iodine tribromide (IBr_3), iodine monochloride (ICl ; alpha and beta), iodine trichloride (ICl_3), iodine pentafluoride (IF_5), iodine heptafluoride (IF_7), carbon dichlorodifluoride (CCl_2F_2), and NF_3 .

48. The furnace assembly in claim 46, wherein said delivery system is configured to deliver a halogen.

49. The furnace assembly in claim 48, wherein said delivery system is configured to deliver a polyhalogen.

50. A semiconductor fabrication system, comprising:

a first reaction device configured to inductively generate a first plasma, wherein said first

plasma comprises an induction blocker, and wherein said first reaction device is further configured to accept said induction blocker in an area that blocks plasma induction; and

a component coupled to said first reaction device and configured to provide said first reaction device with an induction blocker remover.

51. The semiconductor fabrication system in claim 50, wherein said component is a second reaction device configured to generate a second plasma comprising said induction blocker remover.

52. The semiconductor fabrication system in claim 51, wherein said first reaction device comprises a quartz component having an interior defining a plasma induction region; and wherein said quartz component is configured to accept said induction blocker thereon.

53. The semiconductor fabrication system in claim 52, wherein said second reaction device is configured to generate a second plasma comprising a conductive material remover.

54. A cleaning apparatus for an inductively-coupled plasma chamber, comprising:

a conduit configured to couple to said inductively-coupled plasma chamber; and

a cleaning chamber coupled to said conduit and configured to provide a metal-cleaning gas to said inductively-coupled plasma chamber through said conduit.

55. The cleaning apparatus of claim 54, further comprising a plasma-generation device around said cleaning chamber, wherein said plasma-generation device is configured to inductively generate a metal-etching plasma within said cleaning chamber.

56. The cleaning apparatus in claim 55, wherein said cleaning chamber is configured to provide said metal-etching plasma to said inductively-coupled plasma chamber through said conduit.

57. A wafer processing system, comprising:

a reactor having a wafer fabrication mode and a reactor cleaning mode, wherein said reactor is configured to receive a metal-containing gas during said wafer fabrication mode, locally generate a plasma during said wafer fabrication mode, receive a metal etchant during said reactor cleaning mode, and refrain from locally generating a plasma during said reactor cleaning mode; and
a chamber configured to couple to said reactor during said reactor cleaning mode and further configured to temporarily house said metal etchant.

58. The system in claim 57, wherein an interior of said reactor is free of any wafer during said reactor cleaning mode.

59. The system in claim 58, wherein said chamber is configured to transmit said metal etchant in a non-plasma form to said reactor during said cleaning mode.

60. A metal processing system, comprising:

a furnace comprising a quartz tube and configured to house a high-density plasma and to allow deposition of a metal on said quartz tube and on a wafer located inside said quartz tube; and

a cleaning chamber coupled to said furnace and configured to house a gas that is configured to etch said metal from said quartz tube.

61. The system in claim 60, wherein said furnace is configured to allow said gas to access said quartz tube to the exclusion of said wafer.

62. The system in claim 61, wherein said furnace is configured to allow said gas to access said quartz tube in response to a removal of said wafer from said furnace.

63. A plasma-generation system, comprising:

a first plasma chamber;

a second plasma chamber having a deposition mode and a cleaning mode, wherein said second plasma chamber comprises:

a housing defining a process area and coupled to said first plasma chamber, and

a plasma inducer around said housing; and

a conductive material present after said deposition mode between said process area and said inducer.

64. The system in claim 63, wherein said conductive material is between said process area and said housing.

65. The method in claim 64, wherein said conductive material is absent after said cleaning mode.

66. The method in claim 65, wherein said conductive material is absent before said deposition mode.

67. A furnace assembly, comprising:

- a first material that is opaque to a type of energy;

- a structure defining a furnace interior, wherein at least a part of said structure is transparent to said energy, wherein said part contacts said first material, and wherein said structure is configured to interpose between a source of said energy and said first material; and

- a plasma delivery system in fluid communication with said interior defined by said structure.

68. The assembly in claim 67, wherein said first material is present before said plasma delivery system is active.

69. The assembly in claim 68, wherein said first material is opaque to a radio-frequency wave.

Appendix 2:

Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989), *cert. denied*, 493 U.S. 853 (1989).

Corp. 6 USPQ2d 1732 (TTAB cases cited therein. We think the marks involved herein is a factor and serves, in this case, to "clear" in favor of a finding of no confusion.

The refusal of registration is not a bar to the mark will be published for in due course.

very well reach a contrary determination of relative strength or weakness of the

Court of Appeals, Federal Circuit

Richardson v. Suzuki Motor Co. Ltd.

Nos. 87-1497, -1498, -1502, 88-1083, -1084

Decided February 16, 1989

PATENTS

1. Patentability/Validity — In general (§115.01)

JUDICIAL PRACTICE AND PROCEDURE

Procedure — Jury trials (§410.42)

Jury may decide questions of anticipation and obviousness, either as separate special verdicts or en route to verdict on validity, which is also proper question for determination by jury, since there is no reason to distinguish submission of legal questions to jury in patent cases from such jury submissions routinely made in other types of cases.

PATENTS

2. Patentability/Validity — Anticipation — Prior art (§115.0703)

Jury's "advisory" verdict that patentee's rising rate motorcycle suspension was not anticipated, and federal district court's independent holding of validity, are affirmed since reasonable jury could have concluded that claim in issue was not anticipated, in view of totality of evidence including prior art consisting of two prior motorcycle suspension patents and two designs for race car suspensions, and since analysis of district court's decision, based on same prior art, shows no clear error.

3. Patentability/Validity — Obviousness — Evidence of (§115.0906)

JUDICIAL PRACTICE AND PROCEDURE

Procedure — Jury trials (§410.42)

Federal district court's conclusion, after jury entered verdict of non-obviousness, that obviousness of plaintiff's invention had not been proven and that claim in issue is not invalid, is affirmed despite court's erroneous belief that obviousness issue could only be presented to jury for "advisory" verdict, since review of record shows that there was substantial evidence on which reasonable jurors could conclude that claim had not been proved obvious, and therefore no reversible error occurred.

PATENTS

4. Infringement — Doctrine of equivalents — In general (§120.0701)

JUDICIAL PRACTICE AND PROCEDURE

Procedure — Jury trials (§410.42)

Federal district court's judgment of infringement, entered on jury verdict of infringement, is affirmed despite jury's special verdicts that defendant's motorcycle rear suspension linkages are not "equivalent" to patented system, since jury was given incorrect definition of "equivalents" and special verdict interrogatories were prejudicial in that they focused on differences between patented and accused devices without mention of similarities, and since, given correct instructions, reasonable jury could not have found that accused systems, which contain every element of relevant claims but one, are not equivalent to claimed invention.

REMEDIES

5. Monetary — Damages — Patents — Reasonable royalty (§510.0507.03)

Jury's award of 50 cents for each infringing motorcycle sold by defendant as damages for infringement of plaintiff's motorcycle suspension system is vacated, since federal district court improperly instructed jury that infringement was "relatively minor," and since, absent such prejudicial instruction, there was no reasonable basis on which jury could have found that royalty awarded was reasonable.

PATENTS

6. Title — Construction of license agreement (§150.07)

TRADEMARKS AND UNFAIR TRADE PRACTICES

Trade secrets — In general (§400.01)

Federal district court incorrectly instructed jury that only "valid trade secrets" were subject to restraints in contract between plaintiff and defendant since, in view of defendant's agreement not to use or disclose "technical information, know-how, inventions, use data, and design specifications" that it received from plaintiff, jury instructions limited scope of protected information beyond that set forth in contract.

7. Trade secrets — Elements of trade secret (§400.03)

Trade secrets — Disclosure and misappropriation (§400.07)

Federal district court erred by instructing jury that information defendant could have developed on its own was not subject to trade secret protection, that "slavish" copying is necessary for trade secret misappropriation, and that jury could decide whether plaintiff could have both valid patent and legal protection for later-developed information on patented invention, since information capable of independent development or discovery from other sources is not excluded from trade secret protection, misappropriator cannot escape liability by showing modification of, or improvement upon, protected information, and legal status of information and improvements made after patent application has been filed is independent of presence or absence of patent application or ensuing patent.

8. Trade secrets — Elements of trade secret (§400.03)

JUDICIAL PRACTICE AND PROCEDURE

Procedure — Jury trials (§410.42)

Federal district court abused its discretion in granting defendant's motion for new trial on issue of whether certain information constituted trade secrets, since court may not vacate jury verdict unless verdict is contrary to clear weight of evidence, is based upon false evidence, or would cause miscarriage of justice, and since there was substantial evidence before jury that information in question was not publicly known, that defendant agreed to receive and preserve it in confidence, and that information fully satisfies statutory and jurisprudential requirements for protectible trade secrets.

REMEDIES

9. Monetary — Damages — In general (§510.0501)

Jury's assessment of \$104,000 in damages for defendant's use of certain information obtained from plaintiff is affirmed, since there was substantial evidence presented at trial that would enable jury to determine sum awarded.

10. Non-monetary and injunctive — Equitable relief — In general (§505.0701)

Non-monetary and injunctive — Equitable relief — Permanent injunctions (§505.0709)

Federal district court erred in denying plaintiff's motion for injunction after entering final judgment in plaintiff's favor on issue of patent infringement, since irreparable harm is presumed when clear showing of patent validity and infringement is made and therefore injunction should issue if no sound reason exists for denying it, and patentee should not be denied its right to exclude others from using invention once infringement is established.

PATENTS

11. Patent misuse — Improper procurement and enforcement (§140.03)

TRADEMARKS AND UNFAIR TRADE PRACTICES

Trade secrets — Disclosure and misappropriation (§400.07)

REMEDIES

Monetary — Damages — Unfair trade practices (§510.0508)

Federal district court improperly vacated jury verdicts and ordered new trial on fraud issues after jury found for plaintiff on those issues and entered award of punitive damages, since, although court may have believed that defendant did not commit fraud, record shows that there was evidence on which reasonable jury could support verdicts, and since jury's award of punitive damages, which may be assessed if fraud has been expressly found, was not so disproportionate to damages sustained as to be result of passion or prejudice.

PATENTS

12. Patentability/Validity — Inventorship (§115.13)

Title — Assignments (§150.03)

REMEDIES

Non-monetary and injunctive — Equitable relief — In general (§505.0701)

Federal district court erred in denying motion for assignment of defendant's patent to plaintiff after jury returned special verdict finding that invention asserted in patent was

Monetary and injunctive — Equitable — In general (§505.0701)

Monetary and injunctive — Equitable — Permanent injunctions (709)

District court erred in denying motion for injunction after entry of judgment in plaintiff's favor on patent infringement, since irreparable injury was presumed when clear showing of validity and infringement is made. Re injunction should issue if no defense exists for denying it, and patent not be denied its right to exclude others using invention once infringed and published.

Abuse — Improper procurement — Misconduct (§140.03)

IRKS AND UNFAIR TRADE PRACTICES

Trade secrets — Disclosure and misappropriation (§400.07)

Unfair competition — Damages — Unfair trade practices (§510.0508)

District court improperly vacated judgment and ordered new trial on fraud. Jury found for plaintiff on those elements entered award of punitive damages although court may have believed defendant did not commit fraud, but since there was evidence on which a reasonable jury could support verdict since jury's award of punitive damages which may be assessed if fraud has been found, was not so disproportionate as to be result of prejudice.

Patentability/Validity — Inventorship (3)

Assignments (§150.03)

Monetary and injunctive — Equitable — In general (§505.0701)

District court erred in denying assignment of defendant's patent after jury returned special verdict. Invention asserted in patent was

first disclosed to defendant by plaintiff, since separate special verdict in which jury found that plaintiff was not "real" inventor of invention asserted in disputed patent; and on which court based its denial of motion, reflects jury's understanding of co-inventor status of third party and contributions of others in development of alternate embodiment of invention and therefore does not diminish force of verdict naming plaintiff as person who first disclosed invention to defendant, since neither question of whether plaintiff is sole or joint inventor, which is not before court, nor presence in claims of further modification beyond that disclosed by plaintiff to defendant, negates imposition of equitable remedy of assignment of patent, and since, based on jury verdict, plaintiff is entitled to ownership of patent as against defendant.

13. Monetary — Damages — Prejudgment interest (§510.0511)

Federal district court erred in denying plaintiff's request for prejudgment interest on damage awards for patent infringement and misappropriation of trade secrets, since allowance of such interest is required if, as in instant case, there is no showing of exceptional circumstances or reason why damages for trade secret misappropriation should be treated differently from those for patent infringement.

JUDICIAL PRACTICE AND PROCEDURE

14. Procedure — Jury trials (§410.42)

REMEDIES

Monetary — Damages — Patents — Increased damages (§510.0507.07)

Federal district court erred in refusing to submit question of willful patent infringement to jury, since evidence adduced at trial concerning fraud, misappropriation of trade secrets, absence of any opinion by U.S. counsel concerning validity of plaintiff's patent at commencement of defendant's infringing activity, and defendant's bad faith, when viewed in light most favorable to plaintiff, does not permit finding of no willful infringement as only reasonable conclusion.

15. Monetary — Attorney's fees; costs — Patents (§510.0905)

Monetary — Attorney's fees; costs — Unfair trade practices (§510.0907)

Federal district court's award of only one-third of costs to plaintiff who prevailed on major substantive issues in suit exceeded

court's authority, since plaintiff is entitled to statutory costs incurred before trial court.

Particular patents — General and mechanical — Vehicle suspension systems

3,907,332, Richardson, suspension system for two-wheeled vehicles, valid and infringed.

4,457,393, Tamaki and Suzuki, suspension device for motorcycles, assignment to Donald G. Richardson ordered.

Appeal from the U.S. District Court for the Central District of California, Gray, J.

Action by Donald G. Richardson against Suzuki Motor Co. Ltd., U.S. Suzuki Motor Corp., Kawasaki Heavy Industries Ltd., Kawasaki Motors Corp., Yamaha Motor Co. Ltd., Yamaha Motor Corp. U.S.A., Kayaba Industry Co. Ltd. and Kayaba Industry Co., for patent infringement, breach of contract, fraud and misappropriation of trade secrets. From judgment holding plaintiff's patent not invalid and infringed, awarding damages for infringement and use of plaintiff's information by defendant, and from grant of defendant's motion for new trial on issues of trade secrets, fraud, and damages awarded for fraud, Richardson and Suzuki defendants cross-appeal. Affirmed in part, reversed in part, vacated in part, and remanded.

Theresa A. Middlebrook, of Wagner & Middlebrook and Robert D. Driscoll, of Driscoll & Tomich (John E. Wagner, with them on brief), Glendale, Calif., for plaintiff/appellant.

John A. Fogarty, of Kenyon & Kenyon, New York, N.Y. (Richard S. Gresalfi and Dawn M. DiStefano, New York, N.Y., and Richard S. Rockwell, Tustin, Calif., with him on brief; Duffern H. Helsing and Halina F. Osinski, Santa Ana, Calif., of counsel), for defendants/cross-appellants.

Before Skelton, senior circuit judge, and Smith and Newman, circuit judges.

Newman, J.

This appeal and cross-appeal are from the judgment of the United States District Court for the Central District of California, and involve issues of patent validity, infringement, breach of contract, fraud, misappropriation of trade secrets, and several related

issues.¹ We affirm in part, reverse in part, vacate in part, and remand.

The Invention

The invention that led to this litigation is a motorcycle rear-wheel suspension system that smooths the ride over rough terrain, of interest particularly in off-road motorcycle riding. The roughness of the ride is due to bumps and dips in the terrain, transmitted from the wheels to the frame. An optimum rear-wheel suspension will maintain tire contact with the ground despite deflection by irregularities, will avoid "bottoming out" (an unsafe rising of the suspension), yet will achieve a smooth ride without reduction in safety. In 1974 even the best available suspensions did not maintain adequate tire contact with the ground in conjunction with attempts to eliminate bottoming out.

In mid-1974 Donald G. Richardson, a young mechanic in California, devised a solution to the problem, a modified suspension system that he installed in his own motocross motorcycle. Richardson replaced the conventional two-spring shock absorber suspension system with a system consisting of a single shock absorber plus a linkage consisting of a bell crank and connecting rod. This linkage generated a "rising rate"² — a characteristic critical to the issue — and produced a far superior ride, even as it eliminated the dangerous bottoming out. Richardson testified about his first ride, at a hilly construction site near his house, as "utopia. I mean it was incredible"; over hard bumps it was "uncanny because it was so smooth"; "[t]he rear end didn't kick up. It just didn't bottom out and stayed down"; an "unbelievable feeling".

On November 25, 1974 Richardson filed a United States patent application on his invention, and on September 23, 1975 the application issued as United States Patent No. 3,907,322 (hereinafter the '322 or Richardson patent). Patent claim 9, which incorporates claim 1, is the only claim in suit. Claims 1 and 9 follow:

1. A suspension for two wheeled vehicles comprising:

a frame for the vehicle comprising a generally closed shape including upper and lower portions

and a swing arm pivotally connected to the lower portion of said frame;

said swing arm comprising a pair of arms rotatably supporting a wheel about a horizontal axis generally at the end of said swing arm;

the pivotal mounting of said arm to said frame being about a generally horizontal axis whereby said wheel is both rotatable about its own horizontal axis and deflectable in a generally vertical direction about the axis of said swing arm;

spring means having a first end pivotally secured to said frame;

a link member including an intermediate point pivotally mounted on said frame about an axis, parallel to the axis of said swing arm at a point spaced therefrom;

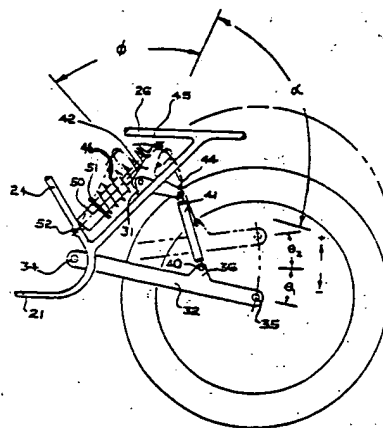
pivotal connection means between said link member and the second end of said spring;

a bar pivotally connected at one end to said swing arm and at the opposite end to said link member at a position spaced from said spring connection;

said spring, bar, swing arm and link connected whereby deflection of said swing arm displaces said bar and rotates said link member to compress said spring.

9. The combination in accordance with claim 1 wherein said assembly provides a rising spring rate as a function of deflection of said swing arm.

Figure 2 of the '322 patent specification is illustrative:



¹ *Richardson v. Suzuki Motors Co. and Suzuki U.S. Motors Corp.*, Nos. CV 80-2589-WPG and CV 82-3826-WPG (C.D. Cal. June 29, 1987 and July 13, 1987).

² "Rising rate" was described by witnesses as follows: "as the suspension travels upward, the resistance to upward travel will increase"; and it "gets stiffer as the wheel moves up toward the vehicle or moves upward in the frame."

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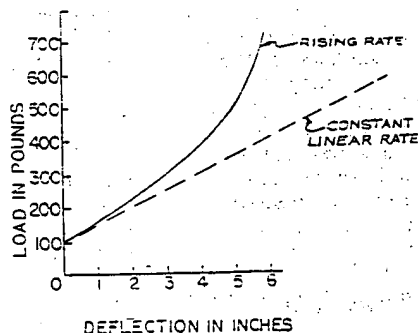
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: '332 patent specification is

As the rear wheel is deflected upward by bumps in the terrain, the swing arm (32) that is pivotally connected at (34) to the motorcycle frame (21) rotates upward, pushing the compression rod (41) into the bell crank (42) that is pivotally secured (31) at its intermediate point to the motorcycle frame. The bell crank rotates on its pivot (31) and compresses, downward against the frame, a spring (46) that is pivotally connected at one end (45) to the bell crank, and at its other end (52) to the motorcycle frame. The interaction of these interconnected parts increases the force on the spring, increasing the rate of resistance to deflection of the wheel with increased movement of the wheel. This varying resistance is the "rising spring rate" of claim 9, and is illustrated in Figure 5 of the '332 patent:



The Contact with Suzuki

In October 1978 Richardson entered into a one year Option and License Agreement with the Suzuki Motor Co., Ltd. of Japan ("Suzuki").

The Agreement gave Suzuki the exclusive right to test and evaluate Richardson's suspension, and the exclusive option to acquire an exclusive license to the '332 patent and Richardson's "proprietary technical information, know-how, inventions, and use data", collectively defined in the Agreement as the "Licensed Rights."

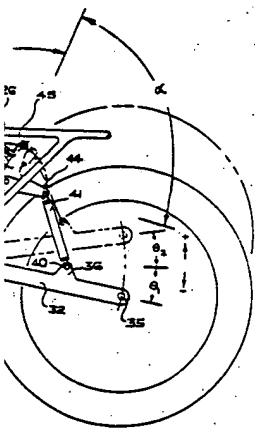
The Agreement required Richardson to disclose to Suzuki all technical information, know-how, inventions, use data and design specifications for his suspension, that he possessed or that he acquired during the option period. Suzuki agreed to preserve all such information in confidence, and not to use any of it "for any purpose other than to evaluate for commercial feasibility of manufacture and marketing during the Option Period." Suzuki agreed that this obligation of confidence continued if Suzuki did not exercise the option. Excepted from the confidentiality obligation was all information previously known to Suzuki or at any time generally known to the public.

The agreement required Richardson to make prototypes of his suspension system for Suzuki's evaluation. Richardson installed his suspension in Suzuki's sample 1978 and 1979 model production motorcycles, and disclosed to Suzuki the technical information and know-how that he possessed, including improvements and other information that he developed during this period. He met frequently with Suzuki engineers and other Suzuki personnel in the United States and in Japan to communicate this information and generally to improve performance and to facilitate testing and evaluation.

There was testimony at trial of initial incredulity on the part of Suzuki engineers concerning Richardson's suspension, of Suzuki's past failures in designing a suspension with the desired characteristics, and of Suzuki's favorable response to the performance of Richardson's suspension. The evidence included internal Suzuki documents made while Suzuki was testing Richardson's suspension, stating that it would "take a long time", perhaps three years, for Suzuki to develop a satisfactory suspension.

In early 1979 Richardson and a colleague Cazort conceived an improvement in the linkage-generated rising rate suspension, which they called the "Alternate Shock Mount" and which they disclosed to Suzuki, accompanied by drawings and blueprints made by Cazort. The difference from the structure described in the '332 patent is that in the Alternate Shock Mount the lower end of the spring is pivotally secured to the swing arm which is pivotally secured to the frame, instead of being pivotally secured directly to the frame, resulting in increased strength.

In May 1979 Richardson's first prototype for Suzuki, wherein Richardson, aided by Cazort, installed his suspension in a Suzuki 1978 production model, was successfully tested in Japan. Testimony at trial included statements attributed to Suzuki's test riders that they could see the bumps but not feel



them, and other commentary evidencing a highly favorable reaction to Richardson's suspension.

It was a stipulated fact that after these tests Suzuki made the decision to place the linkage-generated rising rate suspension system into production, and started development work for this purpose.

On October 16, 1979 Suzuki filed a patent application in Japan. The corresponding United States patent, filed on October 8, 1980, claims the Alternate Shock Mount suspension as disclosed by Richardson, and also claims a modification made by Suzuki called the "criss-cross". Suzuki named two of its engineers, Hirohide Tamaki and Manabu Suzuki, as the inventors.

Suzuki twice requested and was granted one-month extensions of its Option and License Agreement with Richardson. In December 1979 Suzuki informed Richardson that it would not exercise the option.

In March 1980 Suzuki began competitive racing in the United States of Suzuki motorcycles using the Alternate Shock Mount suspension, which Suzuki named the "Full Floater". Suzuki met with marked racing success, the Full Floater receiving favorable publicity and high acclaim from the public. Extensive advertising was directed to the Full Floater rising rate suspension. The product achieved widespread commercial success.

Suzuki denied any obligation to Richardson.

Litigation

Richardson brought suit against Suzuki (Japan) and the U.S. Suzuki Motor Corporation in California state court, and was granted a preliminary injunction restraining the Suzuki companies from breach of the Option and License Agreement and requiring them to comply with the confidentiality terms thereof. At Suzuki's request the state court declined to enforce the injunction after U.S. Suzuki sued Richardson in federal court, seeking a declaratory judgment of invalidity and non-infringement of Richardson's '332 patent.

In 1982 Richardson filed a patent infringement action against the Suzuki companies and others. (Only the Suzuki companies remain as parties.) Richardson reasserted the state claims of breach of contract, breach of implied covenant of good faith and fair dealing, misappropriation of trade secrets, and fraud, and among other relief requested assignment of the patents obtained by Suzuki on the Alternate Shock Mount. Suzuki

counterclaimed for fraud and breach of contract by Richardson, based on asserted invalidity of the '332 patent.

The federal actions were consolidated and tried to a jury. After forty-seven days of a two-part trial the jury gave special verdicts on issues of liability and damages. The district court entered final judgment under Fed.R.Civ.P. 54(b) on the jury verdicts that the '332 patent was not invalid and was infringed by Suzuki, that nine of Richardson's eleven asserted trade secrets were not trade secrets, and that Richardson was not entitled to assignment of the Tamaki/Suzuki patents on the Alternate Shock Mount. The court also entered final judgment on the jury verdicts of damages for patent infringement and for Suzuki's use of certain of Richardson's information that the jury found were not trade secrets. The court denied prejudgment interest and attorney fees, and refused to grant an injunction.

The district court denied most of the parties' post-trial motions, but granted Suzuki's motion for a new trial on three issues that the jury had decided in favor of Richardson, upholding two of the eleven asserted trade secrets, finding fraud on the part of Suzuki, and assessing damages for fraud. The district court then entered a supplemental final judgment for immediate appeal of the issues that the court intended to retry, and certified three specific questions on these and related issues.

I

Validity of Richardson's '332 Patent

Suzuki asserts on appeal the invalidity of claim 9 on grounds of anticipation (35 U.S.C. §102) and obviousness (35 U.S.C. §103).³ The district court, stating that questions of patent validity must be decided by the court, told the jury that its verdicts on this issue were advisory. Nevertheless the court duly entered the jury verdicts, including the answer YES to the question: "Under the facts and law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?" The court entertained, and denied, post-trial motions for judgment n.o.v. and for a new trial on the question of validity. The court also independently decided the question, upholding validity of the '332 patent.

The record provided to us doesn't show the origin of this discredited procedure of advisory

³ The additional aspects of adequacy of disclosure (35 U.S.C. §112) and unenforceability for inequitable conduct, both decided in favor of Richardson, have not been appealed.

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ry verdicts, or whether either party objected.
In *Perkin-Elmer Corp. v. Computervision
Corp.*, 732 F.2d 888, 895 n.5, 221 USPQ
669, 674 n.5 (Fed. Cir.), *cert. denied*, 469
U.S. 857 [225 USPQ 792] (1984), we ob-
served that:

The view suggested in *Sarkisian [v. Winn-
Proof Corp.]*, 688 F.2d 647, 651, (9th Cir.
1982), *cert. denied*, 460 U.S. 1052
(1983)], that a jury verdict on nonobvious-
ness is at best advisory, would make cha-
rades of motions for directed verdict or
JNOV under Fed.R.Civ.P. 50 in patent
cases. These motions apply only to *binding*
jury verdicts.

Moreover, use of an advisory jury is limit-
ed to actions not triable of right by a jury.
(emphasis in original, citations omitted). In
a similar circumstance wherein the trial
court and the jury independently decided the
same jury question (in that case the question
of willfulness of infringement) we remarked
that "[a]ll fact findings of a jury are non-
advisory, unless made in an area expressly
removed from jury verdict." *Shiley, Inc. v.
Bentley Laboratories, Inc.*, 794 F.2d 1561,
1568, 230 USPQ 112, 115 (Fed. Cir. 1986),
cert. denied, 479 U.S. 1087 (1987).

[1] It is established that the jury may
decide the questions of anticipation and obvi-
ousness, either as separate special verdicts or
en route to a verdict on the question of
validity, which may also be decided by the
jury. *Connell v. Sears, Roebuck & Co.*, 722
F.2d 1542, 1547, 220 USPQ 193, 197 (Fed.
Cir. 1983):

No warrant appears for distinguishing the
submission of legal questions to a jury in
patent cases from such submissions rou-
tinely made in other types of cases. So long
as the Seventh Amendment stands, the
right to a jury trial should not be rationed,
nor should particular issues in particular
types of cases be treated differently from
similar issues in other types of cases.

See also, e.g., *Vieau v. Japax, Inc.*, 823 F.2d
1510, 1515, 3 USPQ2d 1094, 1098 (Fed.
Cir. 1987); *Verdegaal Brothers Inc. v. Union
Oil Co. of California*, 814 F.2d 628, 631, 2
USPQ2d 1051, 1052 (Fed. Cir.), *cert. de-
nied*, 108 S.Ct. 95 (1987); *Data Line Corp.
v. Micro Technologies, Inc.*, 813 F.2d 1196,
1200, 1 USPQ2d 2052, 2054 (Fed. Cir.
1987); *Orthokinetics, Inc. v. Safety Travel
Chairs, Inc.*, 806 F.2d 1565, 1571, 1
USPQ2d 1081, 1085 (Fed. Cir. 1986); *DMI,
Inc. v. Deere & Co.*, 802 F.2d 421, 425-27,
231 USPQ 276, 279-80 (Fed. Cir. 1986);
*Mainland Industries, Inc. v. Standal's Pat-
ents Ltd.*, 799 F.2d 746, 747-48, 230 USPQ
772, 773 (Fed. Cir. 1986); *Trans-World
Mfg. Corp. v. Al Nyman & Sons, Inc.*, 750

F.2d 1552, 1560, 224 USPQ 259, 263 (Fed.
Cir. 1984); *Quaker City Gear Works, Inc. v.
Skil Corp.*, 747 F.2d 1446, 1454-55, 223
USPQ 1161, 1165-66 (Fed. Cir. 1984), *cert.
denied*, 471 U.S. 1136 (1985); *Weinar v.
Rollform Inc.*, 744 F.2d 797, 805, 223
USPQ 369, 372 (Fed. Cir. 1984), *cert. de-
nied*, 470 U.S. 1084 (1985); *Perkin-Elmer
Corp.*, 732 F.2d at 894-95, 221 USPQ at
674; *Envirotech Corp. v. Al George, Inc.*,
730 F.2d 753, 758, 221 USPQ 473, 477
(Fed. Cir. 1984); *Railroad Dynamics, Inc. v.
A. Stucki Company*, 727 F.2d 1506,
1512-13, 220 USPQ 929, 935 (Fed. Cir.),
cert. denied, 469 U.S. 871 [224 USPQ 520]
(1984); *White v. Jeffrey Mining Mach. Co.*,
723 F.2d 1553, 1558, 220 USPQ 703, 705
(Fed. Cir. 1983) ("Submission of such a
question of law [obviousness] to a jury, ac-
companied by appropriate instructions, is
proper."), *cert. denied*, 469 U.S. 825 (1984).
See generally, H.T. Markey in *On Simplify-
ing Patent Trials*, 116 F.R.D. 369, 370
(1987) ("There is neither reason nor author-
ity for employing in a patent trial procedures
and practices different from those employed
in any other civil trial. Indeed, reason and
authority mandate the contrary.")

Although the district court and the jury
reached the same result, the standards by
which appellate courts review the judgment
differ, depending on whether it arose from a
jury or a bench trial. *District of Columbia v.
Pace*, 320 U.S. 698, 701 (1944) ("findings of
fact by an equity court and the verdict of a
jury have from time immemorial been sub-
ject to different rules of finality"). When the
judgment arises from a jury verdict, the
reviewing court applies the reasonable jury/
substantial evidence standard: a standard
that gives greater deference to the judgment
simply because appellate review is more
limited, compared with review of a trial
judge's decision. *Id.* at 702. As summarized
in *Lavender v. Kurn*, 327 U.S. 645, 653
(1946), "the appellate court's function is
exhausted when that evidentiary basis [of
the jury's verdict] becomes apparent, it be-
ing immaterial that the court might draw a
contrary inference or feel that another con-
clusion is more reasonable." See generally
M.B. Louis, *Allocating Adjudicative Deci-
sion Making Authority Between the Trial
and Appellate Levels: A Unified View of the
Scope of Review, The Judge/Jury Question,
and Procedural Discretion*, 64 N.C. L.Rev.
993 (1986).

The parties do not take a position on the
district court's procedure, but appear to rec-
ognize that the issue of validity was properly
for jury determination, for neither party re-
fers to the district court's explanation of its

independent determination of the question of obviousness.

In the interest of reaching an end to this protracted litigation, we have reviewed the judgment on the terms on which it reaches us. We have determined first whether Suzuki met its burden of showing on appeal that no reasonable jury could have reached the verdict of "valid" on the evidence before it. *Allen Organ Co. v. Kimball Int'l, Inc.*, 839 F.2d 1556, 1566, 5 USPQ2d 1769, 1777 (Fed. Cir.), *cert. denied*, 109 S.Ct. 132 (1988); *DMI, Inc. v. Deere & Co.*, 802 F.2d 421, 425, 231 USPQ 276, 278 (Fed. Cir. 1986); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 618-19, 225 USPQ 634, 636 (Fed. Cir.), *cert. dismissed*, 474 U.S. 976 (1985). Then, on the premise that the parties may have waived their right to a jury trial on this question by failure to object to the district court's procedure, we have considered whether the district court's independent judgment of validity may be sustained, on the standards applicable thereto. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1566-68, 1 USPQ2d 1593, 1595-97 (Fed. Cir.) (obviousness determination in bench trial reviewed as a question of law based on underlying facts), *cert. denied*, 107 S.Ct. 2187 (1987).

The court correctly instructed the jury that invalidity must be proved by clear and convincing evidence, referring to the presumption of validity. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 674; *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 756 F.2d 1556, 1559, 225 USPQ 253, 255 (Fed. Cir. 1985); *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360, 220 USPQ 763, 771 (Fed. Cir.), *cert. denied*, 469 U.S. 821 [224 USPQ 520] (1984).

A. Anticipation

The district court correctly instructed the jury that an invention is anticipated if the same device, including all the claim limitations, is shown in a single prior art reference. Every element of the claimed invention must be literally present, arranged as in the claim. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673; *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771-72, 218 USPQ 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026 [224 USPQ 520] (1984). The identical invention must be shown in as complete detail as is contained in the patent claim. *Jamesbury Corp.*, 756 F.2d at 1560, 225 USPQ at 256; *Connell*, 722 F.2d at 1548, 220 USPQ at 198.

As prior art, Suzuki relied on the motorcycle suspensions described in certain patents to Downs and Warner, and on the race car wheel suspensions described for Tyrrell and McLaren race cars in two Road and Track magazine articles. Witnesses explained to the jury the similarities and differences between the invention of the '332 patent and each prior art reference. For example, the Downs suspension has a spring element that is rigidly attached to the motorcycle frame and does not pivot as is required by claim 9 of the '332 patent. The Warner reference shows a suspension having a bell crank that is pivotally mounted to the motorcycle frame but not at an intermediate point, whereas Richardson requires a mid-point pivot of the bell crank to the frame. Neither Downs nor Warner describes a rising rate. The magazine articles describe a four wheel racing car suspension system having a linkage-generated variable rising rate incorporating a bell crank, but instead of the swing arm of Richardson's motorcycle suspension, the race car systems use an A-shaped arm mounted to the side of an upright wheel; and the bell crank and linkage in the race car system is located beside the wheel, rather than in front of the wheel as in Richardson's motorcycle system.

Witnesses testified that rising rate in motorcycles had previously been obtained only by progressively wound springs and gas operated shock absorbers. Suzuki argued that rising rate is inherent in the Downs and Warner motorcycle suspensions and expressly described for race cars in the magazine articles, and also that rising rate is merely a statement of function, and thus should not be a basis for distinction from the prior art.

The jury found that Downs did not "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent". For the Warner reference, the jury could not reach a unanimous verdict on this same question, but answered NO to the question whether "the respective elements of Warner function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results". The jury found that the race car suspensions did "disclose each and every element of the Richardson Claims 1 and 9 or their equivalent", but did not reach a unanimous verdict as to whether they "function in substantially the same way as the corresponding elements in Richardson to produce substantially the same results."

The jury had erroneously been instructed that anticipation may be shown by equivalents, a legal theory that is pertinent to obviousness under Section 103, not to antici-

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relied on the motorcycle described in certain patents, and on the race car described for Tyrrell and on two Road and Track Witnesses explained the similarities and differences between the '332 patent and the prior art. For example, the '332 patent is a spring element that is part of the motorcycle frame is required by claim 9 of Warner reference shows a bell crank that is part of the motorcycle frame intermediate point, whereas the prior art is a mid-point pivot of the frame. Neither Downs nor Warner has a rising rate. The magazine shows a four wheel racing car having a linkage-generator incorporating a bell crank of the swing arm of the suspension, the race car shaped arm mounted to the front wheel; and the bell crank in the race car system is at the heel, rather than in front of the Richardson's motorcycle.

that rising rate in motorcycles has been obtained only by using springs and gas operators. Suzuki argued that the rising rate in the Downs and Warner suspensions and express cars in the magazine at rising rate is merely a variation, and thus should not be taken from the prior art. That Downs did not "disclose the element of the Richardson or their equivalent". For this reason, the jury could not reach a verdict on this same question. The jury answered NO to the question of whether the elements of Warner patents are the same way as the elements in Richardson to produce the same results. The race car suspensions did not include every element of the '332 patent and 9 or their equivalent. The jury reached a unanimous verdict that they "function in substantially the same way as the corresponding suspension in Richardson to produce substantially the same results." The jury has been instructed that it may be shown by evidence that is pertinent to Section 103, not to antici-

pation under Section 102. *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747-48, 3 USPQ2d 1766, 1768 (Fed. Cir. 1987), cert. denied, 108 S.Ct. 702 (1988); *Connell*, 722 F.2d at 1548, 220 USPQ at 198. The jury requested a definition of "equivalent" during its deliberations, and was given the Webster's dictionary definition "corresponding or virtually identical, especially in effect or function." This narrow definition, which does not accord with that of *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 608 [85 USPQ 328, 330] (1950), may have minimized the legal error in the instructions. In any event, the erroneous inclusion of equivalents in the anticipation inquiry favored Suzuki. The jury nonetheless answered YES to the special verdict: "Under the facts and law as you believe that you understand them, do you find Claim 9 of the Richardson Patent to be valid?"

[2] On the totality of the evidence and in light of the jury instructions and answers, we conclude that a reasonable jury could have found that the patent was not invalid on grounds of anticipation. *Perkin-Elmer Corp.*, 732 F.2d at 894, 221 USPQ at 673-74 (review of presumed jury finding that anticipation not proved, based on jury verdict of validity).

Reviewing the analysis and decision of the district court, based on the same prior art, we discern no clear error in the court's conclusion that claim 9 was not invalid.

We affirm that claim 9 was not proved invalid on the ground of anticipation.

B. Obviousness

The issue of obviousness was vigorously litigated, Suzuki relying on the same Downs and Warner patents and magazine articles. The record shows that there was extensive testimony concerning the differences between Richardson's suspension and the prior art. Suzuki argued at trial, and repeats on this appeal, that these differences are trivial mechanical expedients.

The jury, among its special verdicts on the *Graham* factors, found that a person of ordinary skill in the pertinent art could be any of: (1) a motorcycle mechanic without formal technical education, (2) a person with experience in working on suspension systems for racing automobiles, but without formal technical training, (3) suspension system instructors, (4) professional motorcycle riders, and (5) someone possessing above-average mechanical skills. Suzuki argues that such a person is of generally high mechanical skill, and to such a person Richardson's rising rate

motorcycle suspension would have been an obvious "adaptation" of the race car suspension systems, which "suggests itself quite plainly, since Downs and Warner incorporate bell cranks in their respective suspensions."

The jury was unable to reach a unanimous verdict on the question of whether a person of the level of skill found by the jury, presented with the problem and being familiar with all the prior art including these four specific references, but unaware of Richardson's device, would be "led to do" what Richardson did. In response to the ultimate question, as we have observed, the jury reached the unanimous verdict that "Under the facts and law as you believe that you understand them", claim 9 was "valid". The district court entered judgment on the jury verdicts, independently held the patent valid, and denied Suzuki's motions for judgment n.o.v. and for a new trial on the issue of validity.

The question for the jury was whether the challenger met the burden of proving invalidity by clear and convincing evidence; and the question on review is whether reasonable jurors could have concluded that the challenger failed to meet that burden. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1571, 1 USPQ2d 1081, 1085 (Fed. Cir. 1986); *Perkin-Elmer Corp.*, 732 F.2d at 894-95, 221 USPQ at 674. The jury's lack of unanimity on certain special verdicts can reasonably be taken to mean, as the district court held, that invalidity had not been proved by clear and convincing evidence.

[3] Our review shows that there was substantial evidence on which reasonable jurors could have concluded that claim 9 had not been proved invalid for obviousness; and thus reached the verdict of "valid". Although the district court erred in its belief that obviousness could only be presented to the jury for an advisory verdict, we may view the court's agreement with the jury verdict of validity as supporting the court's denial of Suzuki's post-trial motions for judgment n.o.v. and for a new trial. *Perkin-Elmer Corp.*, 732 F.2d at 895, 221 USPQ at 674-75. However it is viewed procedurally, no reversible error has been shown in the court's conclusion that obviousness had not been proved and that claim 9 was not invalid.

The judgment of validity is affirmed.

II Infringement

Richardson bore the burden of proving infringement by a preponderance of the evi-

dence. The district court correctly stated that the jury was the finder of the fact of infringement.

The jury rendered special verdicts as to the Suzuki motorcycles before it, Model M having the Richardson/Cazort Alternate Shock Mount and Model C having the "criss-cross" connection added by Suzuki, as follows:

9(a). Do defendant Suzuki's motorcycles of the Model M type . . . infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

9(b). Do defendant Suzuki's motorcycles of the Model C type . . . infringe Claim 9 of the plaintiff's patent?

Answer: YES, WITH THE RISING RATE

In subparts 9(a)(2) and 9(b)(2) of the special verdict the jury answered YES to the question whether the Suzuki motorcycles produce substantially the same rising rate as taught in Richardson's patent.

The principal question on appeal is the meaning and effect of the jury answers to subparts (1) of the special verdict, which were directed "in particular" to the Alternate Shock Mount and the criss-cross modifications:

9(a)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, bearing in mind that the bottom of the spring in the former is affixed to the swing arm rather than to the frame?

Answer: NO

9(b)(1). In particular, is the defendant's linkage equivalent to the plaintiff's, in light of the "criss-cross" of the connecting rods and the bell crank in the defendant's model, as well as the spring attachment to the swing arm, as compared with the plaintiff's Claim 9?

Answer: NO

The district court entered judgment of infringement in favor of Richardson and denied post-trial motions by both sides, including a motion by Richardson to reopen the record in order to present evidence on the doctrine of equivalents. The district court stated that the jury verdicts mean that "infringement is limited to 'rising rate'" and that the Suzuki and Richardson linkages are not equivalent.

Suzuki argues that special verdicts 9(a)(1) and 9(b)(1) require judgment of non-infringement; or, as a minimum, that these verdicts are inconsistent with the verdicts of infringement in 9(a) and 9(b), such that a new trial is required of the entire issue. Richardson states that the verdicts can be

understood, when viewed in light of the jury instructions, in a way that supports the judgments of infringement. Suzuki did not request a new trial on the basis of inconsistent verdicts at the time the judgments were entered, while Richardson moved, unsuccessfully, to amend or delete verdicts 9(a)(1) and 9(b)(1). Each party asserts that any inconsistency should be resolved in its favor.

The Ninth Circuit, in accordance with the general rule, requires trial and appellate courts to seek reconciliation of apparently inconsistent verdicts:

When faced with a claim that verdicts are inconsistent, the court must search for a reasonable way to read the verdicts as expressing a coherent view of the case, and must exhaust this effort before it is free to disregard the jury's verdict and remand the case for a new trial.

Toner v. Lederle Laboratories, 828 F.2d 510, 512 (9th Cir. 1987), cert. denied, 108 S.Ct. 1122 (1988) (citing *Gallick v. Baltimore & Ohio R.R.*, 372 U.S. 108, 119 (1963), also citing *Atlantic & Gulf Stevedores, Inc. v. Ellerman Lines, Ltd.*, 369 U.S. 355, 364 (1962) and *Blanton v. Mobil Oil Corp.*, 721 F.2d 1207, 1213, (9th Cir. 1983), cert. denied, 471 U.S. 1007 (1985)). See also *Allen Organ Co.*, 839 F.2d at 1563, 5 USPQ2d at 1775 (the appellate court must make every effort to harmonize the jury's answers).

The district court did not find the special verdicts inconsistent, apparently in the belief that the jury limited infringement to the rising rate provision of claim 9 but not the other claim clauses. This accords with the court's statement to the jury that the infringement was "minor" because it was limited to the rising rate. This interpretation pleased neither party. If we have correctly understood it, it is incorrect as a matter of law.

"We are bound to find the special verdicts consistent if we can do so under a fair reading of them." *Toner*, 828 F.2d at 512. A fair reading of the special verdicts results from simply applying the rule that "[t]he consistency of the jury verdicts must be considered in light of the judge's instructions to the jury". *Toner*, 828 F.2d at 512. The instructions on infringement, and the specific questions asked by special verdict, were designed to resolve the issues raised at trial. There was testimony on both sides of Suzuki's assertion that its suspension was not the same as Richardson's because it produced a different rising rate. We referred *supra* to special verdicts 9(a)(2) and 9(b)(2):

9(a)(2). Does defendant's Model M produce rising rate substantially the same as

en viewed in light of the jury a way that supports the judgment. Suzuki did not rest on the basis of inconsistent time the judgments were entered. Richardson moved, unsuccessfully or delete verdicts 9(a)(1) and party asserts that any incon-

be resolved in its favor. circuit, in accordance with the requires trial and appellate reconciliation of apparently dicta:

with a claim that verdicts are the court must search for a way to read the verdicts as coherent view of the case, and this effort before it is free to jury's verdict and remand a new trial.

Le Laboratoires, 828 F.2d Cir. 1987), *cert. denied*, 108 (88) (citing *Gallick v. Baltimore*, 372 U.S. 108, 119 (1963) and *Atlantic & Gulf Stevedoring Lines, Ltd.*, 369 U.S. 1207, 1213, (9th Cir. 1983), 71 U.S. 1007 (1985)). See *an Co.*, 839 F.2d at 1563, 575 (the appellate court must sort to harmonize the jury's

court did not find the special verdict, apparently in the belief limited infringement to the violation of claim 9 but not the uses. This accords with the intent to the jury that the invention is "minor" because it was rising rate. This interpretation party. If we have correctly it is incorrect as a matter of

to find the special verdicts can do so under a fair reading, 828 F.2d at 512. A fair special verdicts results from the rule that "[t]he consistency of verdicts must be considered judge's instructions to the jury, 828 F.2d at 512. The instructions, and the specific question special verdict, were designed to raise issues raised at trial. There was no basis for Suzuki's assertion that the invention was not the same as the prior art because it produced a different result, referred *supra* to special verdicts 9(a)(1) and 9(b)(2):

the defendant's Model M produce substantially the same as

the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

9(b)(2). Does defendant's Model C produce rising rate substantially the same as the rising rate produced under the teachings of the plaintiff's patent?

Answer: YES

Another special verdict in the infringement section asked the jury:

11. Does claim 9 of the Richardson Patent describe the invention of a rising rate in terms of what the invention will do rather than in terms of physical arrangement?

Answer: NO

We conclude that the answer "yes, with the rising rate" in verdicts 9(a) and 9(b) is the jury's response to Suzuki's argument, rather than as a finding that only the rising rate claim limitation, and no other, is embodied in the Suzuki suspensions.

We discern no support in the record for the district court's conclusion that verdicts 9(a) and 9(b) meant that the rising rate was the only area of infringement. Structure corresponding to every element of every clause of claims 1 and 9 was identified by witnesses as embodied in the accused motorcycles. There was no real dispute that of the nine or eleven elements in these claims (depending on how counted), all but one were literally present. The dispute centered on one element, the attachment of the spring in the claim clause "spring means having a first end pivotally secured to said frame", since this was the clause affected by the modifications of the Alternate Shock Mount and the criss-cross. In the Alternate Shock Mount, as we have discussed, the spring is pivotally secured to a swing arm that in turn is pivotally secured to the frame, instead of being pivotally secured directly to the frame as is shown in the '332 specification.

Richardson argues that the spring can be either directly or indirectly pivotally secured to the frame, without avoiding literal infringement of the claim. Richardson alternatively argues that on a correct definition of the doctrine of equivalents, citing *Graver Tank*, 339 U.S. at 608 [85 USPQ at 330], these securements are equivalent because the structures are substantially the same and perform substantially the same function in the same way.

The jury had been given the dictionary definition that "equivalent" means "corresponding or virtually identical, especially in effect or function". This definition was reinforced by the phrasing of verdicts 9(a)(1) and 9(b)(1), wherein the question itself instructed the jury on the difference between

the linkages, while remaining silent on the similarities.

This presentation was highly prejudicial. Indeed, these verdicts well illustrate the truism that the way a question is asked can direct the answer. "The decision to submit interrogatories, and the precise language in which they are couched, can have an untoward effect on a verdict, if certain elements of the trial or the evidence are thereby overly emphasized in the jury's mind." *Weinar v. Rollform Inc.*, 744 F.2d 797, 809, 223 USPQ 369, 376 (Fed. Cir. 1984), *cert. denied*, 470 U.S. 1084 (1985).

Further, and equally prejudicial, special verdicts 9(a)(1) and 9(b)(1) isolated this specific claim element so that it was removed from the perspective that is obtained only when the claimed invention is viewed in its entirety. See, e.g., *Hughes Aircraft Co. v. United States*, 717 F.2d 1351, 1363, 219 USPQ 473, 482 (Fed. Cir. 1983). We recently reemphasized in *United States Steel Corp. v. Phillips Petroleum Co.*, No. 88-1166, -1167, -1168, -1169, -1170, -1171, slip op. at 13-14 [9 USPQ2d 1461] (Fed. Cir. Jan. 10, 1989), in discussing *Graver Tank*, that there is no error in considering "the principle of the claimed invention".

A device that embodies improvements on a claimed structure does not automatically avoid the reach of the claim. See, e.g., *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1580, 224 USPQ 409, 417 (Fed. Cir. 1984) (separately patentable improvement may also be an equivalent under the doctrine of equivalents); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 703 218 USPQ 965-967-68 (Fed. Cir. 1983) (infringement not avoided "merely by adding elements"), *cert. denied*, 464 U.S. 1042 (1984). Each case must be decided on its particular facts, viewing the changes in the accused structure in light of the claimed invention. See generally *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934-35, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987), *cert. denied*, 108 S.Ct. 1226 (1988), and *cert. denied*, 108 S.Ct. 1474 (1988); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n.*, 805 F.2d 1558, 1569-70, 231 USPQ 833, 840 (Fed. Cir. 1986), *reh'g denied*, 846 F.2d 1369, 6 USPQ2d 1886 (Fed. Cir. 1988);

[4] We conclude that the jury verdicts, viewed in light of the instructions, held that the Suzuki motorcycles with a rising rate infringed claim 9. We also conclude that on correct instructions no reasonable jury could have found that the claimed invention and the accused structures are not equivalent, on the established facts of record, applying the

correct law of *Graver Tank*. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252 (1986) ("The mere existence of a scintilla of evidence in support of the plaintiff's position will be insufficient; there must be evidence on which the jury could reasonably find for the plaintiff."); *Pullman-Standard v. Swint*, 456 U.S. 273, 291-92 (1982) ("where findings [by the district court] are infirm because of an erroneous view of the law, a remand is the proper course unless the record permits only one resolution of the factual issue"); *Dana Corp. v. IPC Limited Partnership*, 860 F.2d 415, 419, 8 USPQ2d 1692, 1696 (Fed. Cir. 1988) (when there are sufficient established facts of record, appellate court has discretion to determine the merits of JNOV motion.)

The jury verdicts of infringement are supported by substantial evidence, and are upheld. The judgment of infringement is affirmed.

III

Damages for Patent Infringement

As damages for patent infringement the jury assessed a royalty of fifty cents per motorcycle. Richardson states that this royalty is unreasonably low, and resulted from erroneous and prejudicial jury instructions. We review the award on the reasonable jury/substantial evidence standard. *Shatterproof Glass Corp.*, 758 F.2d at 627-28, 225 USPQ at 643-44.

The court told the jury: "Now, I will sustain, I will uphold your verdict [of infringement], but in determining damages and determining any royalty, it seems to me that you must consider that the infringement was a relatively minor infringement." This instruction derived, as we have discussed, from the erroneous interpretation of the verdicts as limited to the "rising rate" clause. We must determine whether this erroneous instruction was prejudicial to the jury's assessment of damages. The Ninth Circuit has stated that "we will reverse a judgment because of a mistake in jury instructions only if the error was prejudicial." *Smiddy v. Varney*, 665 F.2d 261, 265 (9th Cir. 1981), cert. denied, 459 U.S. 829 (1982).

35 U.S.C. §284 provides that damages shall be "adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer". *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d 1568, 1574, 7 USPQ2d 1606, 1612 (Fed. Cir. 1988). The jury was told that a royalty of \$2.00 per motorcycle with an an-

nual minimum of \$70,000 had been agreed to by Suzuki and Richardson in the Option and License Agreement. There was testimony of much higher royalties paid by others for similar contributions to motorcycles. Suzuki presented testimony that the \$2.00 in the agreement does not apply, but should be the starting point for reducing the royalty because the infringement was minor.

[5] We must assume that the jury followed the court's instruction that the infringement was minor. That instruction was a misinterpretation of the jury verdict of infringement, and it usurped the role of the jury. Absent this prejudicial instruction there was no reasonable basis on which reasonable jury could have found that fifty cents was a reasonable royalty.

The judgment of damages for patent infringement is vacated. We remand for retrial of the question.

IV

Richardson's Technical Information

Issues relating to Richardson's technical information were presented at trial on the legal theories of breach of contract and the tort of misappropriation of trade secrets. The district court concentrated on the tort issues in presentation to the jury, apparently accepting Suzuki's position that it had complied with its contractual obligations to Richardson. The court thus required that Richardson prove the existence of legally protectible trade secrets and their misappropriation by Suzuki.

In the only special verdict on the contract issues, the jury found that Suzuki did not violate its duty of good faith and fair dealing in its relationship with Richardson. The jury instructions on the contractual relationship, however, are pertinent to, and intertwined with, the trade secret issues.

A. The Contractual Relationship

In matters of contract law and interpretation we apply the discernable law of the state of California. *Universal Gym Equipment, Inc. v. ERWA Exercise Equipment Ltd.*, 827 F.2d 1542, 1550, 4 USPQ2d 1035, 1040 (Fed. Cir. 1987). At trial Richardson pressed, unsuccessfully, the California law that a covenant of good faith and fair dealing is implied between parties to a contract. *Seaman's Direct Buying Service, Inc. v. Standard Oil Co.*, 38 Cal.3d 752, 768, 686 P.2d 1158, 1166, 206 Cal.Rptr. 354, 363 (1984) ("It is well settled that, in California, the law implies in every contract a covenant

of \$70,000 had been agreed and Richardson in the Option agreement. There was testimony that higher royalties paid by others to motorcyclists. Suzuki testified that the \$2.00 in does not apply, but should be oint for reducing the royalty fringement was minor.

It is assumed that the jury followed the instruction that the injury was minor. That instruction was a distortion of the jury verdict of and it usurped the role of the court. This prejudicial instruction was a reasonable basis on which the court could have found that fifty cents was the royalty.

Amount of damages for patent infringement was vacated. We remand for retrial.

IV

Richardson's Technical Information

According to Richardson's technical information presented at trial on the issue of breach of contract and the appropriation of trade secrets. The court concentrated on the tort issues presented to the jury, apparently accepting the plaintiff's position that it had contractual obligations to Richardson. The court thus required that it prove the existence of legally enforceable secrets and their misappropriation by Suzuki.

The special verdict on the contract issue found that Suzuki did not act in good faith and fair dealing with Richardson. The jury found the contractual relationship, pertinent to, and intertwined with, secret issues.

Contractual Relationship

Under contract law and interpretation, the discernable law of the state in *Universal Gym Equipment, Inc. v. Exercise Equipment Ltd.*, 827 F.2d 1550, 4 USPQ2d 1035, 1040 (9th Cir. 1987). At trial Richardson successfully, the California law of good faith and fair dealing between parties to a contract. See *Buying Service, Inc. v. Co.*, 38 Cal.3d 752, 768, 686 P.2d 166, 206 Cal.Rptr. 354, 363 (1978). It is well settled that, in California, there is in every contract a covenant

of good faith and fair dealing." (Emphasis in original)).

The contract between Richardson and Suzuki was explained at trial, including the clause wherein Suzuki agreed not to use or disclose the "technical information, know-how, inventions, use data, and design, specifications" that it received from Richardson. In discussing whether Suzuki was restrained in its post-contract use of Richardson's information, the district court at first instructed the jury that Suzuki was entitled by law "to use the most efficient means, even though they got it from plaintiff", stating that only "valid trade secrets" were subject to the contractual restraints:

And then after Suzuki's election not to take a license, of course, they were not supposed to use the plaintiff's trade secrets. That's what the contract says. And once again, you're going to have to determine whether these eleven were valid trade secrets. To what extent did the defendant use them, to what extent would the defendant otherwise have developed them.

Now, some of these trade secrets refer to the best alignments and designs. Well, it seems incongruous to say to the defendant they cannot use the best because the best was intentionally disclosed by the plaintiff, and even though experimentation by the defendant surely would have revealed the best as the patent says that it would.

Were the defendants precluded from using the best or were they obliged to use something less efficient. I can't conceive of the defendants not being entitled to use the most efficient means, even though they got it from the plaintiff.

The court later qualified this position by referring to reverse engineering as being improper — although it is far from clear what a reasonable jury would have understood from the court's instructions:

But on further reflection, I have to acknowledge that if you find there was a confidential relationship or contract that prohibited Suzuki from using the plaintiff's trade secrets, technical information or know-how, inventions or use data that the plaintiff gave them, unless it exercised the option, if you find those things to be true, I suppose it would be improper for Suzuki to reverse engineer from Richardson's prototypes, or from trade secrets or other information that he gave them.

The defense of reverse engineering does not apply to information received in confidence or whereas here the information is given under a contract.

Reviewing these instructions in the context of the contract and trade secret questions that were before the jury, we conclude that the jury was incorrectly instructed on the law. See *Bulgo v. Munoz*, 853 F.2d 710, 714 (9th Cir. 1988) (quoting *Los Angeles Memorial Coliseum Comm'n v. National Football League*, 726 F.2d 1381, 1398 (9th Cir.), cert. denied, 469 U.S. 990 (1984)) (instructions reviewed to determine "whether, viewing the jury instructions as a whole, the trial judge gave adequate instructions on each element of the case to ensure that the jury fully understood the issues.")

[6] In *Universal Gym Equipment*, 827 F.2d at 1549, 4 USPQ2d at 1040, we affirmed liability under California law based on breach of contract, when the parties contracted to limit the use by the recipient of "features, designs, technical information, or know-how" disclosed under the contract. We also affirmed that such a contractual arrangement is not incompatible with the patent law, *id.* at 1550, 4 USPQ at 1041, an issue on which the district court in Richardson's case also appears to have been misled, and to have misled the jury. See *Components for Research, Inc. v. Isolation Products, Inc.*, 241 Cal.App.2d 726, 730, 50 Cal.Rptr. 829, 832 (Cal. Dist.Ct.App. 1966) ("The judgment here but affords protection against the use of plaintiff's trade secrets by those to whom they had been disclosed in confidence. Whether the idea was patented or not, plaintiff is entitled to such protection").

The district court erred in law, in limiting the scope of protected information beyond that set forth in the contract, and in its instructions to the jury as to Suzuki's obligations. These errors are reflected in the trade secret issues.

B. The trade secret issues

The jury, despite the excessively restrictive instructions on what were trade secrets, found that certain items that Suzuki had received from Richardson were trade secrets and had been misappropriated, and assessed damages therefor. The jury also assessed damages for use by Suzuki of certain other items that did not "rise to the dignity of trade secrets", in the words of the special verdicts.

Richardson specified eleven items that he had disclosed to Suzuki under the contract, and that he asserted to be trade secrets; to wit: (1) the optimal characteristics of a motorcycle rear-wheel suspension shock absorber, showing three external adjustments, (2) engineering drawings of his proposed and furnished suspension systems, (3) 1978 and

1979 Suzuki motorcycles modified by Richardson, with his rising rate suspension, (4) specific force-velocity curves needed to obtain the advantages of Richardson's invention in Suzuki's motorcycles, (5) design modifications to extend rear wheel travel over earlier rising-rate designs, (6) design of the Alternate Shock Mount including drawings and knowhow, (7) the optimum use and types of certain bearings in the suspension, (8) motorcycle testing and tuning criteria, (9) his bell crank designs and design criteria, (10) adjustments in the angles and dimensions of the parts of the suspension and their effect on performance, and (11) the straight line tubular motorcycle frame.

The California law of trade secrets follows the Restatement definition:

A trade secret may consist of any formula, pattern, device or compilation of information which is used in one's business, and which gives him an opportunity to obtain an advantage over competitors who do not know or use it. . . . Generally it relates to the production of goods, as, for example, a machine or formula for the production of an article.

By-Buk Co., 163 Cal.App.2d at 166, 329 P.2d at 152, 118 USPQ at 553, citing Restatement (First) of Torts, §757 comment b (1939). The court in *By-Buk Co.* reaffirmed "plaintiff's right not to have its [trade secret] processes wrongfully disclosed to others and used to its detriment." *Id.* at 167, 329 P.2d at 153, 118 USPQ at 553.

The burden of proof was placed on Richardson to prove that his information met the legal requirements of a protectible trade secret. *Forro Precision, Inc. v. International Business Machines Corp.*, 673 F.2d 1045, 1056-57, 215 USPQ 299, 305-6 (9th Cir. 1982). This in turn required "either a covenant or a confidential relationship" as a premise of relief. *Futurecraft Corp. v. Clary Corp.*, 205 Cal.App.2d 279, 283, 23 Cal.Rptr. 198, 207-208 (Cal. Dist.Ct.App. 1962) (discussing elements of trade secret protection). Richardson met this requirement through his contractual covenant.

The district court told the jury, several times, that because Suzuki might have developed or could have developed on its own the information it received from Richardson, such information can not be protected as a trade secret. The court said: "Now I think we must assume that the defendant could have accomplished whatever the plaintiff may have contributed toward the development of Models M and C." Whatever the validity of the proposed assumption as to Suzuki's abilities, the court's conclusion is contrary to California law:

It is not necessary in order that a process of manufacture be a trade secret that it be patentable or be something that could not be discovered by others by their own labor and ingenuity.

By-Buk Co., 163 Cal.App.2d at 166, 329 P.2d at 152, 118 USPQ at 553. Nor does the possibility of independent discovery relieve Suzuki of liability:

"[S]ecret formulas and processes * * * are property rights which will be protected by injunction, not only as against those who attempt to disclose or use them in violation of confidential relations or contracts express or implied, but as against those who are participating in such attempt with knowledge of such confidential relations or contract, though they might in time have reached the same result by their own independent experiments or efforts."

Id. at 167, 329 P.2d at 153, 118 USPQ at 553-54 (quoting *Herold v. Herold China & Pottery Co.*, 257 F. 911, 913 (6th Cir. 1919)). Indeed, Suzuki did not argue that it had actually developed on its own the information that it first received from Richardson. Although Richardson adduced evidence that Suzuki had been unable to solve this problem, it is not relevant what Suzuki might have been able to do on its own. Ninth Circuit law upholds trade secret status even had the same information been obtainable from other sources. *Clark v. Bunker*, 453 F.2d 1006, 1010, 172 USPQ 420, 423 (9th Cir. 1972) (trade secrecy "is not negated because defendant by an expenditure of effort might have collected the same information from sources available to the public.") (footnote omitted).

The court also erroneously instructed the jury that "slavish" copying is necessary for misappropriation, and that an exercise of independent judgment would remove the information from protection. The court instructed the jury to consider: "Were they secrets. And, second, did the defendants slavishly use them or did they make up their own minds." These views are contrary to California law. "[D]efendants cannot escape responsibility by showing that they have improved upon or modified the plaintiff's process." *By-Buk Co.*, 163 Cal.App.2d at 169, 329 P.2d at 154, 118 USPQ at 554. The court observed in *Sinclair v. Aquarius electronics, Inc.*, 42 Cal.App.3d 216, 222, 116 Cal.Rptr. 654, 659, 184 USPQ 682, 684 (Cal. Ct.App. 1974) that minor variations are to be expected.

Suzuki argued to the jury, and repeats on appeal, that information that Richardson developed after issuance of the '332 patent, including the Alternate Shock Mount, is

We respond to this question: From the record before us, the jury verdict that items 5 and 6 met the requirements for trade secret protection was supported by the great weight of the evidence. Richardson and Cazort testified about the design modifications that were the subject of item No. 5 and the Alternate Shock Mount subject of item No. 6. The Alternate Shock Mount was considered sufficiently novel and valuable that Suzuki included it in a patent application filed in Japan and later in the United States. The record does not negate the jury's determination of the value of this information. According to California law it is immaterial what Suzuki could have done, for it chose to use Richardson's information, which it obtained under restraint.

In further response, we remark that the relation between the parties, set by contract, was a routine commercial arrangement wherein Richardson agreed to facilitate Suzuki's testing and evaluation of Richardson's invention. This did not convert Richardson's work in adapting his invention to Suzuki's motorcycle into the work of a hired technician whose work product was automatically owned by Suzuki. The proprietary nature of the work done and information provided by Richardson was established by agreement, as was the agreement that Suzuki would not use this information if it did not exercise its option.

[8] There was substantial evidence before the jury that the information on items 5 and 6 was not publicly known; that Suzuki agreed to receive and preserve it in confidence, and that the information fully satisfies the statutory and jurisprudential requirements for protectible trade secrets.

In order to vacate the jury's verdict upholding items 5 and 6 as trade secrets and grant a new trial thereon, the trial court must find that the jury's verdict "is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial judge, a miscarriage of justice." *Hanson v. Shell Oil Co.*, 541 F.2d 1352, 1359 (9th Cir. 1976), *cert. denied*, 429 U.S. 1074 (1977) (quoting *Moist Cold Refrigerator Co. v. Lou Johnson Co.*, 249 F.2d 246, 256, 115 USPQ 160, 168-69 (9th Cir. 1957), *cert. denied*, 356 U.S. 968 [117 USPQ 498] (1958)); *William Inglis & Sons Baking Co. v. ITT Continental Baking Co., Inc.*, 668 F.2d 1014, 1027 (9th Cir. 1981), *cert. denied*, 459 U.S. 825 (1982). It is insufficient that the district court would simply have reached a different verdict.

Our review requires determination of whether the district court abused its discretion in its decision to grant the new trial. *Id.* See *Transgo, Inc. v. Ajac Transmission Parts Corp.*, 768 F.2d 1001, 1014, 227 USPQ 598, 602 (9th Cir. 1985), *cert. denied*, 474 U.S. 1059 (1986) ("the grant or denial of either a motion for a new trial or a motion to amend the judgment must be reviewed on the basis of a determination of whether the district court abused its discretion.") See generally *Seattle Box Co. v. Industrial Crating & Packing, Inc.*, 756 F.2d 1574, 1581, 225 USPQ 357, 363 (Fed. Cir. 1985) ("Abuse of discretion may be established by showing that the district court either made an error of law, or a clear error of judgment, or made findings which were clearly erroneous.") The district court's statements, for example with respect to item

5, "I simply cannot conclude that that is a trade secret. It was an attempt to help Suzuki adapt the Richardson concept to the Suzuki machine . . .", reflect an error of law.

Despite the legal error in the instructions, as we have discussed, any prejudice resulting therefrom favored Suzuki, not Richardson. We conclude that the district court exceeded its discretionary authority in vacating the jury verdict and ordering a new trial. That action is reversed, and the jury verdict is reinstated as to items Nos. 5 and 6, including the damages assessed for items Nos. 5 and 6.

D. Items 1-4 and 7-11

For asserted trade secrets Nos. 1-4 and 7-11, the jury may well have been led by erroneous instructions into applying an incorrect legal standard, in finding that these items were not trade secrets. It appears, however, that Richardson did not move for judgment n.o.v. or a new trial on these verdicts. Although there is a hint in the post-trial colloquy that the court intended or was willing to retry all the trade secret issues along with items 5 and 6, this does not satisfy the rule, supported by logic, that the formalities of post-trial motions be respected. *Snellman v. Ricoh Co.*, 836 F.2d 528, 534, 5 USPQ2d 1341, 1346 (Fed. Cir. 1987) (applying Ninth Circuit law in holding that motions for judgment n.o.v. and for a new trial must be made). Thus we have no authority to review these verdicts.

By special verdict the jury was also asked to assess damages for Suzuki's use of the information encompassed in each of items 1-4 and 7-11, even if the information did not "rise to the dignity of trade secrets". The jury determined this sum for each item, some at \$0, the highest at \$25,000, for a total of \$104,000. The district court sustained this award, on a theory of "quantum meruit compensation". Both parties appeal this award, Richardson asserting its inadequacy, and Suzuki arguing that Richardson was fully paid for his information in the option agreement, and is not entitled to damages for Suzuki's use of any information received from Richardson.

We have rejected, as a matter of law, Suzuki's theory that it is entitled to use, free, the information disclosed by Richardson under the option agreement. Richardson's disclosures were made under terms that prohibited their use by Suzuki if the option was not exercised. This contract provision does not depend on whether the information is a trade secret, but only on whether it was previously known to Suzuki or generally known to the public, as discussed *ante*.

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An appellate tribunal is abjured to deter-
mine whether a jury verdict can be sus-
tained, on any reasonable theory. *Jaffke v.
Kunham*, 352 U.S. 280, 281 (1957) ("A
successful party in the District Court may
sustain its judgment on any ground that
finds support in the record.")

[9] There was substantial evidence at trial
whereby a reasonable jury could have deter-
mined the sums awarded by this jury. In-
deed, Suzuki does not challenge the valu-
ations of the damage awards for items 1-11,
arguing instead that nothing at all is owing.

The judgment as to items 1-4 and 7-11 is
affirmed, including damages assessed for
these items in the total amount of \$104,000.

V

Injunction

The district court, having entered final
judgment that the Suzuki Full Floater sus-
pension infringing claim 9 of the '332 patent,
denied Richardson's motion for injunction.

[10] Infringement having been estab-
lished, it is contrary to the laws of property,
of which the patent law partakes, to deny the
patentee's right to exclude others from use of
his property. 35 U.S.C. §261. "[T]he right to
exclude recognized in a patent is but the
essence of the concept of property". *Connell*,
722 F.2d at 1548, 220 USPQ at 198 (citing
Schenck v. Nortron Corp., 713 F.2d 782, 218
USPQ 698 (Fed. Cir. 1983)).

It is the general rule that an injunction will
issue when infringement has been adjudged,
absent a sound reason for denying it. *W.L.
Gore & Associates, Inc. v. Garlock, Inc.*, 842
F.2d 1275, 1281, 6 USPQ2d 1277, 1283
(Fed. Cir. 1988). Suzuki has presented no
such reason. This court stated in *H.H. Rob-
ertson Co. v. United Steel Deck, Inc.*, 820
F.2d 384, 390, 2 USPQ2d 1926, 1929-30
(Fed. Cir. 1987), when reviewing an injunc-
tion granted *pendente lite*:

In matters involving patent rights, irre-
parable harm has been presumed when a
clear showing has been made of patent
validity and infringement. *Smith Interna-
tional*, 718 F.2d at 1581, 219 USPQ at
692. This presumption derives in part
from the finite term of the patent grant,
for patent expiration is not suspended dur-
ing litigation, and the passage of time can
work irremediable harm.

We observe that the '332 patent will expire
in less than four years, that litigation started
over eight years ago, and that the district
court remarked that further proceedings
could consume "several years".

Further, a misappropriator of trade se-
crets has no authorization of right to contin-

ue to reap the benefits of its wrongful acts.
Richardson is entitled to an injunction
against Suzuki's continuing use of trade se-
crets Nos. 5 and 6. *By-Buk Co.*, 163 Cal.
App.2d at 167, 329 P.2d at 153, 118 USPQ
at 553-54; *Components for Research, Inc.*,
241 Cal.App.2d at 730, 50 Cal.Rptr. at 832.

The denial of Richardson's request for
injunction is reversed. On remand the dis-
trict court shall enter appropriate injunctive
relief.

VI

Fraud

The jury found by special verdicts that
Suzuki fraudulently induced Richardson to
reveal his trade secrets by concealing its
intention not to exercise its option or take a
license, and that Suzuki fraudulently con-
cealed from Richardson the fact that it was
developing the Full Floater "with the inten-
tion of declining to exercise the option and
then nevertheless to utilize the plaintiff's
trade secrets in the full floater". The jury
also found fraud in that Suzuki filed the
Tamaki patent application "in the knowl-
edge that the invention asserted therein (the
spring/swing arm connection) was first dis-
closed to them by Richardson". The jury
awarded Richardson \$20,000 in compensa-
tory and \$100,000 in punitive damages.

The district court vacated the judgment
and ordered a new trial. Suzuki asserts that
the court should have granted Suzuki's mo-
tion for judgment n.o.v. instead of ordering a
new trial, while Richardson asserts that the
court should have upheld the jury verdicts.

The district court certified the question of
how to treat its belief that Suzuki did not
commit the offenses of fraud and conceal-
ment found by the jury, including the ques-
tion of punitive damages. We first must
consider whether a reasonable jury could
have reached the verdicts here reached. *Lav-
ender v. Kurn*, 327 U.S. at 653. Apt is the
statement of the Ninth Circuit in *Crocker-
Citizens Nat'l Bank v. Control Metals
Corp.*, 566 F.2d 631, 635 (9th Cir. 1977):
"Courts are not free to reweigh the evidence
and set aside the jury verdict merely because
the jury could have drawn different infer-
ences or conclusions or because judges feel
that other results are more reasonable",
quoting *Cockrum v. Whitney*, 479 F.2d 84,
86 (9th Cir. 1973), in turn quoting *Tennant
v. Peoria & P. U. Ry. Co.*, 321 U.S. 29, 35
(1944).

[11] The record shows that there was testi-
mony, based on certain of Suzuki's docu-
ments, on which a reasonable jury could have

supported these verdicts. There were issues of credibility, and inferences that could reasonably have been drawn in a manner adverse to Suzuki. "The credibility of witnesses and the weight of the evidence are issues for the jury and are generally not subject to appellate review." *Benigni*, 853 F.2d at 1525. While the district court may have believed that Suzuki did not commit fraud, review shows that the requirements for vacating the jury verdicts and relitigating the issue were not met. *Hanson*, 541 F.2d at 1359; *William Inglis*, 668 F.2d at 1027. A fresh trial is not warranted simply because the district court would have reached a different verdict.

A jury assessment of punitive damages is not excluded in circumstances such as those here presented, where the jury expressly found fraud. *Tri-Tron Int'l v. Velto*, 525 F.2d 432, 437, 188 USPQ 177, 181 (9th Cir. 1975) ("where compensatory damages are sought and awarded, the court has power, on a proper record, to award punitive damages"), citing *Clark v. Bunker* 453 F.2d 1006 1012, 172 USPQ 420, 424 (9th Cir. 1972), in turn citing *El Rancho, Inc. v. First Nat'l Bank*, 406 F.2d 1205, 1218 (9th Cir. 1968), *cert. denied*, 396 U.S. 875 (1969) (jury verdict awarding punitive damages was supported by evidence of malice) and *Davenport v. Mutual Benefit Health & Accident Ass'n*, 325 F.2d 785, 787 (9th Cir. 1963) (remand for trial to allow evidence of fraud to support claim of punitive damages.)

The district court correctly instructed the jury as to the law, stating that "it's only if you find that the defendants' conduct stem from malice, oppression, fraud or bad faith that you can find any punitive damage at all." As stated in *In re Innovative Construction Systems, Inc.*, 793 F.2d 875, 889, 230 USPQ 94, 104 (7th Cir. 1986):

[A] breach of faith underlies every trade secret claim. However, establishing that breach alone is insufficient to warrant an award of punitive damages; one must also demonstrate that the defendant acted wantonly, willfully, or in reckless disregard of the plaintiff's rights. (Citations omitted)

See also *Neal v. Farmers Insurance Exchange*, 21 Cal.3d 910, 928, 582 P.2d 980, 986, 148 Cal.Rptr. 389, 395 (1978) ("In order to justify an award of exemplary damages, the defendant must be guilty of oppression, fraud or malice. (Civ. Code §3294.) He must act with the intent to vex, injure or annoy, or with a conscious disregard of the plaintiff's rights") (quoting *Silberg v. California Life Insurance Co.*, 11 Cal.3d 452, 462, 521 P.2d 1103, 1110, 113 Cal.Rptr.

711, 718 (1974)); *Reynolds Metals Co. v. Lampert*, 316 F.2d 272, 275 (9th Cir. 1963), *cert. denied*, 376 U.S. 910 (1964) (in jury trial, evidence to justify punitive damages must show injury was done maliciously or willfully and wantonly or committed with bad motive or recklessly); *Transgo, Inc.*, 768 F.2d at 1024 [227 USPQ at 610] (The determination to award punitive damages was "within the exclusive province of the jury") (quoting *Runge v. Lee*, 441 F.2d 579, 584, 169 USPQ 388, 392 (9th Cir.), *cert. denied*, 404 U.S. 887 [171 USPQ 322] (1971)).

The jury having found by special verdicts that Suzuki acted fraudulently, the requisite intent was established. "We give the trial judge and jury wide discretion in assessing punitive damages." *Hatrock v. Edward D. Jones & Co.*, 750 F.2d 767, 772 (9th Cir. 1984). The jury's award was not "so disproportionate to the damages sustained as to be the result of passion or prejudice". *Id.* (citing *Neal*, 21 Cal. 3d at 928, 582 P.2d at 990, 148 Cal. Rptr. at 399). *Transgo, Inc.*, 768 F.2d at 1024 [227 USPQ at 610] ("We will not overturn such an award unless it appears that the jury was influenced by passion or prejudice.") (citing *Harmesen v. Smith*, 693 F.2d 932, 947 (9th Cir. 1982), *cert. denied*, 464 U.S. 822 (1983)).

We answer the certified question that, in this case, neither a new trial nor judgment n.o.v. was warranted. The order of a new trial on this issue is vacated. The judgment on the jury verdicts of fraud and the award of compensatory and punitive damages is reinstated.

VII

The Tamaki Patent

Richardson states that Suzuki fraudulently patented the Alternate Shock Mount that had been disclosed to Suzuki by Richardson and Cazort in a patent that also described the "criss-cross" modification developed at Suzuki. There was evidence and argument on the factual premises, including the absence of supporting documentation on the part of the named inventors Hirohide Tamaki and Manabu Suzuki, the earliest record on their behalf being dated October 1979. The corresponding Japanese patent application was filed on October 16, 1979.

The jury rendered the following special verdicts:

C-3. Did Suzuki and/or Mr. Tamaki file the Tamaki patent application in the knowledge that the invention asserted therein (the spring/swing arm connection) was first disclosed to them by Richardson:

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74)); *Reynolds Metals Co. v. F.2d 272, 275 (9th Cir. 1963)*, 376 U.S. 910 (1964) (in jury case to justify punitive damages jury was done maliciously or wantonly or committed with recklessness); *Transgo, Inc.*, 768 F.2d 227 USPQ at 610] (The deterrent punitive damages was exclusive province of the jury") *see v. Lee*, 441 F.2d 579, 584, 8, 392 (9th Cir.), *cert. denied*, [171 USPQ 322] (1971)).

iving found by special verdicts stated fraudulently, the requisite established. "We give the trial jury wide discretion in assessing damages." *Hatrock v. Edward-D.*, 750 F.2d 767, 772 (9th Cir. 1984) (The jury's award was not "so disproportionate as to be an abuse of discretion or prejudice". *Id.* (citing 3d at 928, 582 P.2d at 990, 148 399). *Transgo, Inc.*, 768 F.2d USPQ at 610] ("We will not grant an award unless it appears to be influenced by passion or citing *Harmsen v. Smith*, 693 (9th Cir. 1982), *cert. denied*, (1983)).

the certified question that, in her a new trial nor judgment warranted. The order of a new trial is vacated. The judgment of fraud and the award of punitive damages is

VII

The Tamaki Patent

states that Suzuki fraudulently assigned the Alternate Shock Mount that was used by Suzuki by Richardson to a patent that also described a "modification developed at the time of the evidence and argument presented in the aborting documentation on the part of the named inventors Hirohide Tamaki and Suzuki, the earliest recited being dated October 1979." Responding Japanese patent was filed on October 16, 1979.

ordered the following special

zuki and/or Mr. Tamaki file a patent application in the case that the invention asserted was a spring/swing arm connection first disclosed to them by

Answer: YES

H-1. Do you find that the Plaintiff, Richardson, is the real inventor of the invention shown in the Tamaki patents and patent applications?

Answer: NO

It was not significantly disputed at trial that claims 1 through 8 of the Tamaki corresponding United States Patent No. 4,457,393 cover the Alternate Shock Mount of Richardson and Cazort, and that claim 9 includes the criss-cross embodiment of Tamaki and Suzuki. (The scope of claim 5 is raised, but is not material to our conclusion.)

The district court denied Richardson's post-trial motion that the Tamaki patent be assigned to Richardson. In colloquy with counsel the court explained that it could not do so because "the jury said Richardson wasn't the inventor". Indeed it was conceded, and discussed at trial, that Richardson and Cazort, not Richardson alone, invented the Alternate Shock Mount. Cazort, as well as Richardson, testified at length on this structure. Special verdict H-1 that Richardson is not "the real inventor" is in accord with the co-inventor status of Cazort, and also with the Japanese contribution of the criss-cross embodiment.

[12] The force of special verdict C-3 is not diminished. This verdict was not challenged on appeal. "It was further the duty of the court to direct the appropriate judgment to be entered upon the special verdict." *Traders and General Insurance Co. v. Mallitz*, 315 F.2d 171, 175 (5th Cir. 1963). The district court having failed to implement this verdict, Richardson's motion for judgment and for assignment of the Tamaki patents was not out of order.

The remedy of assignment of the Tamaki patents is a different question from whether Richardson is a sole or joint inventor. The correction of inventorship is an administrative step, and is not before the court. Similarly, the presence of a further modification in one or two claims of the patent directed to the Alternate Shock Mount does not negate the imposition of an equitable remedy. To hold otherwise would ratify and indeed reward the wrongdoing.

Based on the jury verdict, Richardson is entitled to ownership of the patents as against Suzuki. Such remedy is appropriate under the circumstances; *see, e.g., Colgate-Palmolive Co. v. Carter Products, Inc.*, 230 F.2d 855, 865, 108 USPQ 383, 391 (4th Cir.), *cert. denied*, 352 U.S. 843 [111 USPQ 467] (1956) (corporate assignee of patent application ordered to assign to original holder of trade secrets all rights to patent applications based thereon); *De Long Corp.*

v. Lucas, 176 F.Supp. 104, 134 [122 USPQ 471, 493] (S.D.N.Y. 1959), *aff'd*, 278 F.2d 804 [125 USPQ 370] (2nd Cir.), *cert. denied*, 364 U.S. 833 [127 USPQ 555] (1960) (when an employee has acquired patents on inventions developed by his former employer, "the courts will hold the wrongdoer to be a constructive trustee of the property misappropriated and will order a conveyance by the wrongdoer to the former employer"); *Becher v. Contour Laboratories, Inc.*, 279 U.S. 388 (1929) (same); *Saco-Lowell Shops v. Reynolds*, 141 F.2d 587, 598, 61 USPQ 3, 13 (4th Cir. 1944) (requiring assignment of patent based on ideas received by licensee from licensor in confidence during development of invention for market).

Suzuki argues that Richardson has no remedy other than by seeking an interference in the United States Patent and Trademark Office with his own invention, and presumably by taking similar actions, if such are available, in other countries. We do not agree. The courts are not powerless to redress wrongful appropriation of intellectual property by those subject to the courts' jurisdiction.

The denial of Richardson's motion for judgment is reversed. Suzuki shall assign to Richardson the patents filed by Suzuki that include the Richardson/Cazort invention of the Alternate Shock Mount, in all countries. We remand to the district court for the purpose of implementing compliance.

VIII

Prejudgment Interest

[13] The district court denied Richardson's request for prejudgment interest on both the patent infringement and the trade secret damage awards. Prejudgment interest is the rule governing this class of award. *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655, 217 USPQ 1185, 1188 (1983); *Lummus Industries, Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 274, 8 USPQ2d 1983, 1988 (Fed. Cir. 1988); *Fromson*, 853 F.2d at 1573-74, 7 USPQ2d at 1611; *Bio-Rad Laboratories, Inc. v. Nicolet Instrument Corp.*, 807 F.2d 964, 967, 1 USPQ2d 1191, 1193 (Fed. Cir. 1986), *cert. denied*, 107 S.Ct. 3187 (1987).

No exceptional circumstances having been shown, and no reason why damages for misappropriated trade secrets should be treated differently from damages for patent infringement, the denial of prejudgment interest is reversed.

IX

*Willful Infringement
and Exceptional Case*

The district court refused to submit the question of willful infringement to the jury, stating that Richardson had not provided sufficient evidence to go to the jury.

To refuse to give an issue to the jury is to direct a verdict in favor of the opposing party. Thus we review the district court's ruling on the standard of "whether the evidence permits only one reasonable conclusion after viewing the evidence in the light most favorable to the non-moving party and drawing all inferences in favor of that party." *Bulgo v. Munoz*, 853 F.2d 710, 714 (9th Cir. 1988) (citing *Peterson v. Kennedy*, 771 F.2d 1244, 1256 (9th Cir. 1985), cert. denied, 475 U.S. 1122 (1986)). See also *Connell*, 722 F.2d at 1546, 220 USPQ at 197.

[14] Richardson refers to the evidence adduced in connection with the jury verdicts of fraud, to the verdicts of misappropriation of trade secrets 5 and 6, to the absence of any opinion of United States counsel concerning validity of the '332 patent when Suzuki started its infringing activity, and to evidence from Suzuki's records tending to show bad faith. Viewing this evidence in the light most favorable to Richardson, and drawing all reasonable inferences in his favor, there was sufficient evidence to take to the jury, for the evidence does not require a verdict in favor of Suzuki. Absent sufficient basis for directing the verdict, Richardson has the right of jury determination of this factual question. Willfulness of behavior is a classical jury question of intent. *Shiley*, 794 F.2d at 1568, 230 USPQ at 115; *Hammerquist v. Clarke's Sheet Metal, Inc.*, 658 F.2d 1319, 1325-26, 212 USPQ 481, 486 (9th Cir. 1981), cert. denied, 460 U.S. 1052 (1983). When trial is had to a jury, the issue should be decided by the jury.

We remand for this purpose. The jury's findings on the issue of willfulness will be pertinent not only to the question of multiplication of damages under 35 U.S.C. §284, but also to determination of whether this is an exceptional case in terms of 35 U.S.C. §285. Entitlement under California Civil Code §3426 may also be considered.

X

Other Arguments

Both sides have raised many points in their briefs, disputing most aspects of the proceedings. We have considered all arguments in reaching our conclusions.

Costs

[15] The award by the trial court of only one third costs to Richardson, in view of the judgments in his favor on the major substantive issues, exceeded the trial court's discretionary authority. Richardson is entitled to his statutory costs incurred before the district court. The reduction thereof is reversed.

Costs on this appeal are taxed in favor of Richardson.

AFFIRMED IN PART, REVERSED IN PART, VACATED IN PART, AND REMANDED.

Pennsylvania Superior Court

Den-Tal-Ez Inc. v. Siemens Capital Corp.

No. 02312 Philadelphia 1987

Decided October 21, 1988

TRADEMARKS AND UNFAIR TRADE PRACTICES**1. Trade secrets — In general (§400.01)**

Mutual non-disclosure agreement, executed between plaintiff dental handpiece company and defendant that was negotiating to acquire plaintiff, which requires confidential information to be so marked but which does not define "confidential" information as limited only to information that is marked does not therefore limit its protections only to information marked "confidential."

2. Unfair competition — In general (§395.01)**Trade secrets — In general (§400.01)**

Execution of confidentiality agreement does not thereby constitute implied waiver of common law protections against misappropriation of trade secrets.

3. Trade secrets — In general (§400.01)

Starting point under Pennsylvania law for determining whether alleged misappropriation of trade secret occurred is not whether confidential relationship existed but whether, in fact, trade secret existed which could be misappropriated, since Pennsylvania follows "property" view of trade secrets which shifts emphasis from whether defendant's conduct conformed to its confidential relationship with plaintiff to close analysis of whether information was trade secret.

Appendix 3:

In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990)

to show injury caused by actual confusion only because the summary judgment was limited to the plaintiff's *claim for damages*. If the plaintiff in *Schutt* had made other claims, claims not for damages (in the traditional sense) but for equitable relief such as a request for defendant's profits on an unjust enrichment theory, the plaintiff's failure to show injury caused by actual confusion would have been insufficient to support summary judgment against it. See *Roulo*, 886 F.2d at 941. Thus, the rule for the particular case in *Schutt*, a case involving a claim for damages only, cannot be generalized to fit all claims arising under the Lanham Act. It cannot be generalized to fit the claims in this case.⁴

Accordingly, we reverse the judgment of the district court.⁵ In so doing, however we wish to disturb none of the court's findings of fact and as little as possible of its legal analysis. WPC has shown that Oxy-Dry violated section 43(a) of the Lanham Act. It has not shown, however, that it is entitled to a "grant of monetary damages." Whether it is entitled to a recovery of some or all of the defendant's profits, or to a recovery of its attorneys' fees or litigation costs, we do not decide. We leave those issues on remand for the district court.

Reversed and remanded for further proceedings consistent with this opinion. Circuit Rule 36 shall not apply.

⁴ As WPC's amended complaint clearly shows, WPC prayed for more than just damages. In addition to asking the district court to award damages, WPC asked the district court, among other things, to award WPC Oxy-Dry's profits and WPC's costs, expenses and reasonable attorneys' fees.

⁵ In addition to entering judgment for Oxy-Dry on WPC's Lanham Act claim, the court below entered judgment for Oxy-Dry on related state law claims pressed by WPC. The court concluded that the legal principles governing the Lanham Act also governed "WPC's common law claim of unfair competition and WPC's claims under the Illinois Consumer Fraud and Deceptive Business Practices Act and the Illinois Deceptive Trade Practices Act, Ill.Rev.Stat. ch. 121½, ¶¶262, 311-12." The court then held "that WPC has failed to prove these claims for the same reason that it failed to prove its claim under the Lanham Act." We have noted, however, that the district court was wrong in interpreting the principles governing the Lanham Act. It follows that the district court erred in holding that WPC had failed to establish a "claim" under state law, assuming, *arguendo*, that the same principles of law apply to the state actions as apply to those brought pursuant to the Lanham Act.

Court of Appeals, Federal Circuit

In re Bond

No. 90-1023

Decided August 3, 1990

PATENTS

1. Patentability/Validity — Anticipation — Prior art (§115.0703)

Patent construction — Claims — "Means" claims (§125.1307)

Board of Patent Appeals and Interferences' rejection, as anticipated by prior art, of claim which provides, through combination of control means, first circuit means, second circuit means, and delay means, for telephone answering machine to be set to answering mode remotely, must be vacated, in view of lack of any finding of structural equivalence between claim's delay means and means embodied in prior art device.

2. Patentability/Validity — Obviousness — Relevant prior art (§115.0903)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Board of Patent Appeals and Interferences erred in rejecting claim for remote turn-on control system for telephone answering machine on grounds that use of micro-computer to achieve delay means was obvious, since board's factual findings show that cited references would not have suggested claimed invention to one of ordinary skill, and since board's analysis was based on hindsight reconstruction of claimed invention.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Application for patent of Raymond G. Bond, serial no. 840,007, filed March 17, 1986. From decision affirming examiner's final rejections of both claims of patent, applicant appeals. Vacated in part, reversed in part, and remanded.

Keith D. Beecher, of Jessup, Beecher & Slehofer, Santa Monica, Calif., for appellant.

Murriel E. Crawford, assistant solicitor (Fred E. McKelvey, with her on brief), for appellee.

Appeals, Federal Circuit

In re Bond

o. 90-1023

l August 3, 1990

**Validity — Anticipation —
§ 15.0703)**

**Invention — Claims —
§ 125.1307)**

ent Appeals and Interferences anticipated by prior art, provides, through combinations, first circuit means, means, and delay means, for ring machine to be set to remotely, must be vacated, if any finding of structural between claim's delay means existed in prior art device.

**Validity — Obviousness —
prior art (§ 115.0903)**

**Validity — Obviousness —
References (§ 115.0905)**

ent Appeals and Interferences rejecting claim for remote system for telephone answering grounds that use of microcomputer delay means was obvious. Factual findings show that would not have suggested to one of ordinary skill, analysis was based on hindrance of claimed invention.

The U.S. Patent and Trademark Office of Patent Appeals and

for patent of Raymond G. Bond, Serial No. 840,007, filed March 17, 1986, affirming examiner's rejection of both claims of patent, Serial No. 840,007, vacated in part, reversed and affirmed.

Attorney, of Jessup, Beecher & Associates, Santa Monica, Calif., for

Lawrence Crawford, assistant solicitor general (with her on brief), for

Before Baldwin, senior circuit judge, Archer, circuit judge, and Tashima, district judge (Central District of California, sitting by designation).

Per curiam.

This appeal is from the decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences (Board), Appeal No. 89-1286, dated June 30, 1989, affirming the examiner's final rejection of both claims of Raymond G. Bond's patent application Serial No. 840,007, filed March 17, 1986, entitled "Remote Turn-on Control System for Telephone Answering Machine." We vacate-in-part, reverse-in-part and remand.

I

The application involves one of the remote control features of a telephone answering machine, the remote turn-on feature. The machine owner who forgot to set the machine to answer (e.g., it was set to play back messages) can call the machine and set it to answering mode remotely by ringing the phone a certain number of times. Once the machine is set, it will remain in this mode and answer calls until it is set to another mode. In this respect, the application involves technology essentially identical to the device patented by Curtis, et al., U.S. Patent No. 3,723,656 (Curtis).

Bond claims a combination of the above technology and a delay means which would prevent the machine from answering the owner's initial call for a predetermined period of time after it has set itself to answer (claim 1). Bond argues that the prior art does not leave sufficient time to hang up after setting the machine to answer, and the owner therefore may incur toll charges. Claim 1 was rejected under 35 U.S.C. § 102 over Curtis. Bond also claims the use of a microcomputer containing an internal counter to implement the control and delay structures (claim 2). Claim 2 was rejected under 35 U.S.C. § 103 over Curtis in view of Hanscom.¹

¹Hanscom was awarded U.S. Patent No. 4,400,586 for a "Remote Message Repeat Control For Telephone Answering System." Hanscom's claimed invention includes a means for retrieving messages remotely using a "beeper" to alert the machine that it should perform that function. The Hanscom specification provides that the essential control functions are performed by a microcomputer.

II

The Board affirmed the examiner's rejection of claim 1. "For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference." *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677, 7 USPQ2d 1315, 1317 (Fed. Cir. 1988). These elements must be arranged as in the claim under review, *Lindemann Maschinenfabrik v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984), but this is not an "ipse dixit" test, *Akzo N.V. v. United States Int'l Trade Comm'n*, 808 F.2d 1471, 1479 & n.11, 1 USPQ2d 1241, 1245 & n.11 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909 (1987). "[A]nticipation is a fact question subject to review under the clearly erroneous standard." *In re King*, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986).

Claim 1 provides for a combination of control means, first circuit means, second circuit means, and

delay means included in said control means for delaying the seizure of said telephone line by said second circuit means for a predetermined time interval after said telephone answering machine has been set to said automatic answering mode so as to permit the calling party to get off the telephone line and avoid telephone charges.

"It is axiomatic that, in proceedings before the PTO, claims in an application are to be given their broadest reasonable interpretation consistent with the specification, [] and that claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art." *In re Sneed*, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983) (citations omitted). The specification provides that this delay is implemented through digital means as follows:

[W]hen the telephone answering machine is so set to the automatic answer mode, an internal counter in the microcomputer Z107 delays the time until pin 31 goes high, so that actual line seizure is delayed. This permits the calling party to get off the line before any toll charges are assessed.

Once pin 31 "goes high," the answering machine immediately seizes the line. By contrast, seizure of the line is delayed in the Curtis device through analog means.² A

²The board found that "Curtis disclosed a delay means (R1-R5, C3-C4 and the fixed time between rings) which delays the seizure of the

delay occurs between the time the machine sets to answer — in response to, for example, the tenth ring signal — and the seizure of the line — which takes place only on receipt of the next ring signal.³

[1] The disclosed and prior art structures are not identical, but the claim may nonetheless be anticipated. While a "means-plus-function" limitation may appear to include all means capable of achieving the desired function, the statute requires that it be "construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112 ¶6 (emphasis added); see *In re Iwahashi*, 888 F.2d 1370, 1375 n.1, 12 USPQ2d 1908, 1912 n.1 (Fed. Cir. 1989) (applying § 112 ¶6 to PTO proceedings, and harmonizing prior case law); *Johnston v. Ivac Corp.*, 885 F.2d 1574, 1580, 12 USPQ2d 1382, 1386 (Fed. Cir. 1989) ("section 112 ¶6 operates to cut back on the types of means which could literally satisfy the claim language," (emphasis in original)). However, the Board made no finding that the delay means of claim 1 and that embodied in the Curtis device are structurally equivalent. Accordingly, its decision as to the anticipation of claim 1 is deficient and must be vacated. Since structural equivalency under section 112 ¶6 is a question of fact, see *Pennwalt Corp. v. Durand-Wayland*, 833 F.2d 931, 933-34, 4 USPQ2d 1737, 1739 (Fed. Cir. 1987) (*in banc*), the court will not reach that question in the first instance.⁴

telephone line for a predetermined time after the machine has been set." It would seem from our review of the Curtis disclosure that resistors R1-R5 and capacitors C3 and C4 do not function to produce any delay after the device is energized, i.e., set to the automatic answering mode. Rather, their role seems to be limited to producing the delay that precedes the energizing of the answering device. If our understanding of the Curtis disclosure is correct, the delay experienced by the Curtis device between the time the device is energized and the time it seizes the telephone line is a function solely of the fixed time between telephone rings, which delay is not produced by structure within the Curtis device. In view of our vacatur and remand of the board's decision regarding claim 1 on other grounds, we need not further consider the question of whether there is structure in Curtis to delay seizure of the line after the device is energized.

³ The board found that in the Curtis device "the line is not seized immediately but only after one additional ring" (emphasis added); the Curtis specification discloses that the incoming call is answered by the answering machine "on" the next ring. See col. 4, lines 16-17.

⁴ In light of this disposition, the court need not resolve the question of how closely synchronized

III

The Board rejected claim 2, which depends from claim 1, on the ground that the use of a microcomputer to achieve the delay would have been obvious to one skilled in the art. "A determination that an invention would have been obvious under § 103 is a conclusion of law based on fact. [] The degree to which the determination involves facts, and is thus subject to the 'clearly erroneous' standard . . . is that degree required to erect a foundation of facts sufficient to support the legal conclusion." *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 1423, 8 USPQ2d 1323, 1327 (Fed. Cir. 1988) (citations omitted). See also *In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985).

Claim 2 modifies claim 1 by defining the control and delay means thereof as "comprising" a microcomputer having an internal counter to delay the seizure of said telephone line until the counter reaches a predetermined count." In its opinion, the Board stated:

Curtis discloses an analog circuit for counting calls [sic, rings]. . . . Hanscom discloses that it was conventional to count calls [rings] digitally in a telephone answering machine by means of a microcomputer. . . . We hold that the artisan, having the suggestions of Curtis and Hanscom before him at the time the invention was made, would have found it manifestly obvious to combine these teachings to obtain the subject matter of claim 2.

We are convinced that this holding does not recognize that there are critical differences between the claimed invention and the prior art. See *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966) (the difference between the claimed invention and the prior art is one of the four factual inquiries pertinent to any obviousness inquiry under 35 U.S.C. § 103). It also does not reflect the admonition of this court that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *Carella v. Starlight Archery and Pro Line Co.*, 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed. Cir. 1986); see also *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). The Board's analysis is a

are the ring signals heard by calling and called parties.

III

rejected claim 2, which defines claim 1, on the ground that the microcomputer to achieve the delay is obvious to one skilled in the art. The determination that an invention is obvious under §103 is a legal conclusion. [] The Board's determination involves a subject to the 'clearly established' is that degree of a foundation of facts sufficient to the legal conclusion." *Ryco, Corp.*, 857 F.2d 1418, 1423, 8 USPQ2d 1327 (Fed. Cir. 1988) (cited). See also *In re Caveney*, 761 F.2d 1226 USPQ 1, 3 (Fed. Cir. 1985).

defines claim 1 by defining the delay means thereof as "comprising a microcomputer having an internal circuit for the seizure of said telephone line counter reaches a predetermined time." In its opinion, the Board

uses an analog circuit for delay [sic, rings]. . . . Hanscom claimed it was conventional to count delay digitally in a telephone answering machine by means of a microcomputer. The Board held that the artisan, having knowledge of Curtis and Hanscom at the time the invention was made, would have found it manifestly obvious to combine these teachings to obtain the subject matter of claim 2.

The Board held that this holding does not mean there are critical differences between the claimed invention and the prior art. *In re John Deere Co.*, 383 U.S. 139, 14 USPQ2d 459, 467 (1966) (the Board's determination that the claimed invention is one of the four factual findings of the Board is not subject to any obviousness inquiry under §103). It also does not mean that the Board's determination cannot be established by the teachings of the prior art or the claimed invention, absent some evidence of incentive supporting the Board's determination. *Carella v. Starlight Archery Co.*, 804 F.2d 135, 140, 231 USPQ2d 147 (Fed. Cir. 1986); see also *vs., Inc. v. Montefiore Hosp.*, 2, 1577, 221 USPQ 929, 933 (4). The Board's analysis is a

signals heard by calling and called

classical example of a hindsight reconstruction of the claimed invention.

Bond's claimed invention includes a microcomputer which functions to delay seizure of the telephone line once the device has been set to the automatic answering mode. The Board found that the Curtis device experiences some delay after it has been energized and before it seizes the telephone line. Such a delay is only inherent in the Curtis system and Curtis neither places any importance on this delay nor specifically notes that line seizure should be further deferred. Hanscom, the secondary reference, discloses a familiar telephone answering machine that employs a microcomputer which delays seizure of the telephone line until after a preset number of rings, while using a microcomputer to count the number of incoming rings. Hanscom is silent with respect to whether a device like that disclosed by Curtis should embody a delay following activation of the answering mode and before line seizure, or how such a delay should be implemented. For the purpose of its combination with Curtis, the Hanscom patent merely discloses that microcomputers can be used as a means for counting telephone rings entering an automatic answering machine.

[2] When the claimed invention is contrasted with the Curtis and Hanscom devices, a distinct difference becomes apparent — the claimed invention embodies a microcomputer placed within the system which delays seizure of the telephone line for a predetermined period of time following activation of the device's answering mode. Unless the Curtis and Hanscom disclosures would have suggested to one of ordinary skill in the art at the time the invention was made that a microcomputer should be so employed, claim 2 is not unpatentable under 35 U.S.C. §103 on this record. See *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1050-51, 5 USPQ2d 1434, 1438 (Fed. Cir.) cert. denied, 109 S.Ct. 75 (1988). On balance, we conclude, given the factual findings of the Board (including the finding that the Curtis device does contain some structure which is involved in producing the inherent delay in seizing the telephone line after activation of the automatic answering mode, see footnote 2, *supra*), that even though the Curtis device does experience some inherent delay, the cited references would not have suggested the claimed invention to one of ordinary skill. Neither reference expressly or implicitly suggests that a microcomputer assembly should be embodied in a Curtis-like device in such a manner as would produce the inherent, yet unmentioned, delay experienced by the Curtis device.

IV

In conclusion, the Board's decision is (1) vacated insofar as it holds that the invention of claim 1 of Bond's application is anticipated by the Curtis device; (2) reversed insofar as it holds that claim 2 is unpatentable under 35 U.S.C. §103 over Curtis in view of Hanscom; and (3) remanded. On remand, the Board should consider whether the delay experienced by the Curtis device after activation of the answering mode and before seizure of the telephone line is caused by any "structure" within the Curtis device and, if so, whether this "structure" is equivalent to that disclosed in Bond's specification as exemplary of the claim 1 delay means. Only if each of these inquiries is answered in the affirmative is the invention defined in claim 1 anticipated by the Curtis disclosure.

VACATED-IN-PART, REVERSED-IN-PART, and REMANDED.

Court of Appeals, Federal Circuit

Rosemount Inc. v. U.S. International Trade Commission

No. 90-1263

Decided August 2, 1990

PATENTS

1. U.S. International Trade Commission — Remedies (§155.07)

U.S. International Trade Commission — Appeals (§155.09)

International Trade Commission's exercise of its authority to grant temporary relief in proceeding under Tariff Act's Section 337, 19 USC 1337, should parallel factors considered by federal district court in determining whether to grant injunction prior to trial; commission's exercise of that authority will be reviewed on appeal under abuse of discretion standard.

REMEDIES

2. Non-monetary and injunctive — Equitable relief — Preliminary injunctions — Patents (§505.0707.07)

Presumption of irreparable harm may be afforded to patent owner who has made strong preliminary showing of patent valid-

Appendix 4:

Watts v. XL Systems Inc., 232 F. 3d 877, 56 U.S.P.Q.2d 1836 (Fed. Cir. 2000)

decision whether to grant an injunction, I believe that, in a case such as this, if an employer proves it is entitled to an injunction, it would be unreasonable, and thus an abuse of the court's discretion, to refuse injunctive relief.

Please Note:

The court has recorded its own entry on the date of the release of this Opinion.

Watts v. XL Systems Inc.

U.S. Court of Appeals
Federal Circuit

No. 99-1526

Decided November 14, 2000

PATENTS

[1] Patent construction — Claims — Means (§ 125.1307)

"Sealingly connected" limitations in claims of patents for oil well tubing connections are not means-plus-function limitations, since limitations do not recite word "means," and thus raise presumption that they are not in means-plus-function form, since presumption has not been rebutted, in that limitations recite or refer to terms that are reasonably well understood in pertinent art as names for structure, and which perform recited function of sealing, since specifications make clear that sealing function is performed by interlocking, tapered internal and external pipe threads recited in claims, and since threads represent sole structural configuration effecting seal, and are not mere indicators of location of seal.

[2] Patent construction — Prosecution history estoppel (§ 125.09)

Patent construction — Specification and drawings — Defining terms (§ 125.1103)

Patent construction — Claims — Broad or narrow (§ 125.1303)

"Sealingly connected" limitation in claims of patents for oil well tubing connections is limited to structures utilizing misaligned taper angles for pipe threads that effect sealing connection, since terms of limitation are not clear,

and specification must therefore be consulted for clarification, since only method described in specification by which tapered internal and external threads are "dimensioned" for sealing connection is misalignment of threads' taper angles, since specification actually limits invention to structures that utilize misaligned taper angles, and since invention is similarly limited by prosecution history, in which applicant distinguished primary reference based on claimed invention's misaligned taper angles; although applicant's arguments were made during discussion of rejection of single claim, they are general in nature and apply to any claim that covers "sealingly connected" limitation.

[3] Infringement — Literal infringement (§ 120.05)

Infringement — Doctrine of equivalents — In general (§ 120.0701)

Accused devices do not infringe, either literally or under doctrine of equivalents, asserted claims of patents for oil well tubing connections, since claims, as properly construed, require use of misaligned taper angles on internal and external pipe threads that effect sealing connection, and since plaintiff has stipulated that defendant does not use differing taper angles between connecting pipe ends, and that defendant does not use any structures that perform same function, in same way, to achieve same result, or that are substantially different from claimed structures.

Particular patents — General and mechanical — Oil well tubing

4,813,717, Watts, oil well tubing connection, claims 2 and 18 not infringed.

5,143,411, Watts, threaded tubular connection, claim 1 not infringed.

Appeal from the U.S. District Court for the Eastern District of Texas, Hines, J.

Action by John D. Watts against XL Systems Inc. for patent infringement. Plaintiff appeals from order granting summary judgment of non-infringement. Affirmed.

James H. Riley II, of Shook, Hardy & Bacon, Houston, Texas, for plaintiff-appellant.

Charles B. Walker Jr. and Winstol D. Carter Jr., of Fulbright & Jaworski, Houston, for defendant-appellee.

ist therefore be consulted.
ce only method described:
which tapered internal and
"dimensioned" for seal-
misalignment of threads'.
specification actually lim-
structures that utilize mis-
s, and since invention is
y prosecution history, in
tinguished primary refer-
ed invention's misaligned
gh applicant's arguments,
discussion of rejection of
are general in nature and
hat covers "sealingly con-

— Literal infringement

- Doctrine of equivalents (§ 120.0701)

do not infringe, either lit-
ctrine of equivalents, as
patents for oil well tubing
claims, as properly con-
of misaligned taper angles
ternal pipe threads that ef-
tion, and since plaintiff has
endant does not use differ-
between connecting pipe
fendant does not use any
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me result, or that are insub-
from claimed structures.

ents — General and me- Oil well tubing

ts, oil well tubing connec-
18 not infringed:
s, threaded tubular connec-
nfringed.

e U.S. District Court for the
f Texas, Hines, J.

1 D. Watts against XL Sys-
nt infringement. Plaintiff ap-
granting summary judgment
ent. Affirmed.

II, of Shook, Hardy & Ba-
kas, for plaintiff-appellant.
ker Jr. and Winstol D. Carter
& Jaworski, Houston, for
e.

Before Bryson, Gajarsa, and Linn, circuit
judges.

Linn, J.

John D. Watts seeks review of a final deci-
sion of the District Court for the Eastern Dis-
trict of Texas. *See Watts v. XL Systems, Inc.*,
No. 97-CV-261 (E.D. Tex. July 15, 1999). The
district court held on summary judgment that
claims 2 and 18 of U.S. Patent No. 4,813,717
("717 patent") and claim 1 of U.S. Patent
No. 5,143,411 ("411 patent") were written
in means-plus-function format and were not
infringed by the products of XL Systems, Inc.
("XL"). *See Watts*, slip op. at 3-5. In light of
this holding, the district court declined to ad-
dress XL's alternative argument of invalidity,
finding it moot. *See id.* at 5. We disagree with
the district court's holding that the sealing
limitation of the claims is in means-plus-
function format, but nonetheless agree with
the district court's judgment holding the
claims in issue not infringed. Accordingly, we
need not address XL's alternative argument of
invalidity.¹

BACKGROUND

Both the '717 patent and the '411 patent, as
well as the accused products, are directed to-
ward connecting sections of pipe together.
Their primary application is in the oil well in-
dustry in which miles of pipe may need to be
dropped into a hole. Such a pipe consists of a
large number of sections, called joints, which
are typically forty feet long and twenty inches
wide and are connected together. The joints
are commonly connected together in one of
two ways. The first uses an integral connec-
tion in which the joints themselves have mat-
ing threads allowing the joints to be connected
directly to each other. The second uses a cou-
pling connection in which the joints still have
threads, but are connected to a coupling which
is disposed between two successive joints.

¹ XL admits in its brief that its invalidity argument
was advanced as an alternative argument in its sum-
mary judgment motion. *See Watts*, slip op. at 2, 5. Hav-
ing upheld the district court's judgment of non-
infringement, it is settled that we need not address XL's
alternative argument of invalidity. *See Hill-Rom Co. v.*
Kinetic Concepts, Inc., 209 F.3d 1337, 1344, 54
USPQ2d 1437, 1442 (Fed. Cir. 2000) (upholding the
district court's judgment of non-infringement and stat-
ing that this court need not address the alternative argu-
ment of invalidity, raised as an affirmative defense at
the district court).

The coupling has a much smaller length than
the joint. The '717 and '411 patents disclose
joints and couplings with increased sealing
and strength characteristics to accommodate
the large and varied forces to which oil well
pipes are exposed.

Watts is the inventor of both the '717 patent
and the '411 patent, which is a continuation-
in-part of the '717 patent. This appeal con-
cerns only claims 2 and 18 of the '717 patent
and claim 1 of the '411 patent. Each of the
three claims includes substantially the same
two functional statements and these state-
ments are the only limitations that the parties
contest. The parties agree that claim 18 of the
'717 patent is representative. Claim 18 reads
as follows:

18. A high efficiency connection for
joints of oilwell tubing or the like, compris-
ing: at least two pipes joined together and
forming joints of pipe, each joints of pipe
having a first end with no increase in wall
thickness relative to the average pipe wall
thickness and formed with tapered internal
threads; the joints each having a *second end*
formed with tapered external threads di-
mensioned such that one such joint may be
sealingly connected directly with another
such joint; the threads being of sufficient
length and taper such that the pipe wall
strength of the first end in the area of the
smallest diameter of thread engagement is
at least three-fourths of the average pipe
wall strength of the joints of pipe.

'717 patent, col. 8, ll. 6-18 (emphasis added).
The first functional statement, as identified by
the district court and the parties, is indicated
above by underlining. The second functional
statement is the text that follows the under-
lined portion.

The parties agreed to three stipulations re-
garding the allegedly infringing products. The
parties stipulated that XL: (1) does not in-
fringe any of the three claims when both of
the functional statements are construed as
means-plus-function limitations; (2) does not
use differing taper angles between connecting
pipe ends; and (3) does not use any structure
that is insubstantially different from the use of
differing taper angles.

The district court construed both of the
functional statements to be means-plus-
function limitations and held that they were
limited to the disclosed embodiments. The

district court held that in the alternative, if 35 U.S.C. § 112, paragraph 6 did not apply, both of the functional statements were limited by the specification and prosecution history to the disclosed embodiments. Based on its claim construction and the stipulations, the district court held that XL did not infringe any of the claims at issue. Watts appeals the district court's judgment. We have exclusive jurisdiction pursuant to 28 U.S.C. § 1295(a)(1) (1994).

DISCUSSION

A. Standard of Review

We review a district court's grant of summary judgment *de novo*, reapplying the standard applicable at the district court. See *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1301, 50 USPQ2d 1429, 1434 (Fed. Cir. 1999) (citing *Conroy v. Reebok Int'l, Ltd.*, 14 F.3d 1570, 1575, 29 USPQ2d 1373, 1377 (Fed. Cir. 1994)). Summary judgment is only appropriate when "there is no genuine issue as to any material fact and . . . the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c). We draw all reasonable inferences in favor of the non-movant. See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). The determination of infringement is a two-step process. First, this court construes the claims and, second, we compare the properly construed claims to the accused device. See *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454, 46 USPQ2d 1169, 1172 (Fed. Cir. 1998) (en banc).

B. Applicability of 35 U.S.C. § 112, paragraph 6

Section 112, paragraph 6 provides that "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof." 35 U.S.C. § 112, para. 6 (1994). In *Personalized Media Communications, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 48 USPQ2d 1880 (Fed. Cir. 1998), building upon a line of cases interpreting 35 U.S.C. § 112, paragraph 6,² we stated that the failure to use the word "means" in a claim element created

a rebuttable presumption that 35 U.S.C. § 112, paragraph 6 did not apply. See *Personalized Media*, 161 F.3d at 703-04, 48 USPQ2d at 1886-87. We also reiterated that in determining whether a presumption is rebutted, "the focus remains on whether the claim . . . recites sufficiently definite structure." *Id.* at 704, 48 USPQ2d at 1887. We noted, however, that the claim limitation need not "connote a precise physical structure." *Id.* at 705, 48 USPQ2d at 1888. The following year, we further clarified that the presumption that § 112, paragraph 6 did not apply could be rebutted by showing that the claim element recited a function without reciting sufficient structure for performing that function. See *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1302, 50 USPQ2d 1429, 1434 (Fed. Cir. 1999) (explaining the converse rules for rebutting a presumption that § 112, paragraph 6 does apply). As an aid in determining whether sufficient structure is in fact recited by a term used in a claim limitation, this court has inquired into whether the "term, as the name for structure, has a reasonably well understood meaning in the art." *Greenberg*, 91 F.3d at 1583, 39 USPQ2d at 1786 (applying this test to the term "detent mechanism"). If § 112, paragraph 6 applies, then we follow the guidelines to claim construction specified in the statute: "such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112, para. 6. If § 112, paragraph 6 does not apply, then our precedent for the construction of limitations that are not means-plus-function limitations is applied in the customary way.

In this case, in determining that the sealingly connected limitation³ should be construed as a means-plus-function limitation, the district court stated that the limitation was "drafted as a function to be performed . . . rather than as a definite structure." *Watts*, slip op. at 4. Watts argues that the district court was wrong, contending first that because the

102 F.3d 524, 41 USPQ2d 1001 (Fed. Cir. 1997); *Mas-Hamilton Group v. LaGuard, Inc.*, 156 F.3d 1206, 48 USPQ2d 1010 (Fed. Cir. 1998); *Unidynamics Corp. v. Automatic Prods. Int'l, Ltd.*, 157 F.3d 1311, 48 USPQ2d 1099 (Fed. Cir. 1998).

³ As will be shown, the first functional statement disposes of the case. Therefore we need not, and do not, address the second functional statement. See *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1577 n.3, 27 USPQ2d 1836, 1839 n.3 (Fed. Cir. 1993).

² See, e.g., *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 19 USPQ2d 1367 (Fed. Cir. 1991); *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 39 USPQ2d 1783 (Fed. Cir. 1996); *Cole v. Kimberly-Clark Corp.*,

umption that 35 U.S.C. § 112, not apply. See *Personalized* at 703-04, 48 USPQ2d at 1302, reiterated that in determining whether the claim recites its structure." *Id.* at 704, 48 USPQ2d at 1302. We noted, however, that the claim need not "connote a precise structure." *Id.* at 705, 48 USPQ2d at 1303. In this case, we further clarified that § 112, paragraph 6 could be rebutted by showing that the claim recited a function without reciting a structure for performing the function. See *Rodime PLC v. Seagate Tech., Inc.*, 130 F.3d 1294, 1302, 50 USPQ2d 1302 (Fed. Cir. 1999) (explaining the presumption that § 112, paragraph 6 does apply). As an aid in determining whether sufficient structure is recited, we have inquired into whether the claim recites a structure, has a reasonable meaning in the art." *Id.* at 1583, 39 USPQ2d at 1303. In this case, we held that the claim recited the term "detent" in § 112, paragraph 6 applies, and the guidelines to claim construction in the statute: "such claim is to cover the corresponding structure, or acts described in the claim, or equivalents thereof." 35 U.S.C. § 112, paragraph 6. If § 112, paragraph 6 is not rebutted, then our precedent for the construction of the claim is applied in the case.

In determining that the seal limitation³ should be construed as a means-plus-function limitation, the court held that the limitation was not to be performed by a structure of definite structure." *Watts*, slip op. at 4. The district court found first that because the

sealingly connected limitation does not use the word "means," it is presumptively not a means-plus-function limitation. Next, *Watts* argues that the sealingly connected limitation is not purely functional because the claim describes a precise structure by reciting tapered internal and external threads. XL responds that the sealingly connected limitation is a means-plus-function limitation because it does not include structure capable of entirely performing the recited function. XL maintains that the tapered internal and external threads do not seal, but merely provide the location of the seal, and that the seal is created by misaligned taper angles. Finally, XL argues that public policy mandates that functional claims be restricted to the disclosed embodiments.

[1] We hold that the sealingly connected limitation is not a means-plus-function limitation. First, the presumption applies that because the limitation does not recite the word "means" it is not a means-plus-function limitation. Second, the presumption is not rebutted because the claim limitation recites or refers to terms that are reasonably well understood in the art as names for structure and which perform the recited function of sealing. Specifically, the claim limitation recites "a second end formed with tapered external threads" and refers to "a first end" with "tapered internal threads." These terms clearly have reasonably well understood meanings in the art as names for structure. Further, the specification makes it clear that the sealing function is performed with these interlocking threads. See '717 patent, col. 2, l. 48 - col. 3, l. 14; see also *Unidynamics*, 157 F.3d at 1319, 48 USPQ2d at 1104 (looking to the specification to determine the scope of "spring means").

XL's arguments are unavailing. The threads represent the sole structural configuration effecting the seal and clearly are not mere indicators of the location of the seal as XL has argued. Although the use of misaligned taper angles, as well as a variety of other mechanisms, may increase the strength of the seal, the claimed sealing function is accomplished by the claimed threads. See '717 patent, col. 2, l. 48 - col. 3, l. 66. Finally, because the limitations are not purely functional, XL's public policy argument is inapplicable.

The other two claims at issue include the same structural language, and the '411 specification includes the same discussion of how the seal is created and how its strength can be

increased. Therefore, our holding that the sealingly connected limitation of claim 18 of the '717 patent is not a means-plus-function limitation also applies to claim 2 of the '717 patent and claim 4 of the '411 patent.

C. Construction of the Sealingly Connected Limitation

Having held that § 112, paragraph 6 is not applicable, we proceed to a standard claim construction. In construing a claim, a court principally consults the evidence intrinsic to the patent, including the claims, the written description, and the relevant prosecution history. See *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576 (Fed. Cir. 1996). While limitations contained in the specification are not ordinarily read into the claims, see *Intervet Am., Inc. v. Key-Vet Lab., Inc.*, 887 F.2d 1050, 1053, 12 USPQ2d 1474, 1476 (Fed. Cir. 1989), it is important to examine the specification. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995) ("Claims must be read in view of the specification, of which they are a part."), *aff'd*, 517 U.S. 370 [38 USPQ2d 1461] (1996). One purpose for examining the specification is to determine if the patentee has limited the scope of the claims. See *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1581, 42 USPQ2d 1777, 1781 (Fed. Cir. 1997) (limiting claims because the specification described only non-smooth or conical passages and distinguished over the prior art based on these characteristics); *Wang Lab., Inc. v. America Online, Inc.*, 197 F.3d 1377, 1382-83, 53 USPQ2d 1161, 1164-65 (Fed. Cir. 1999) (limiting claims to the only embodiment described, a character-based protocol, and specifically not encompassing a bit-mapped protocol); *Modine Mfg. Co. v. United States Int'l Trade Comm'n*, 75 F.3d 1545, 1551, 37 USPQ2d 1609, 1612 (Fed. Cir. 1996) ("[W]hen the preferred embodiment is described in the specification as the invention itself, the claims are not necessarily entitled to a scope broader than that embodiment.").

The district court, in its alternative ruling, held that the sealingly connected limitation was expressly defined in the specification and prosecution history: "as including only misaligned taper angles to effect a seal." *Watts*, slip op. at 4. According to the district court, the specification stated that the seal was created with misaligned taper angles and the

³ USPQ2d 1001 (Fed. Cir. 1997); *Mas-LaGard, Inc.*, 156 F.3d 1206, 48 USPQ2d 1206 (Fed. Cir. 1998); *Unidynamics Corp. v. Int'l, Ltd.*, 157 F.3d 1311, 48 USPQ2d 1311 (Fed. Cir. 1998).

⁴ The first functional statement disavows the first functional statement disavows herefore we need not, and do not, recite a functional statement. See *Carroll v. Mech. Sys., Inc.*, 15 F.3d 1573, 1576 (Fed. Cir. 1993).

prosecution history distinguished over the prior art with this sealing structure. *See id.*

Watts maintains, however, that the district court erred by reading in a limitation from the specification. Watts argues that the district court did not identify any term in need of a definition and it was therefore improper for the district court to import into the claims any definition from the specification. At oral argument before this court, Watts also argued that the specification was not, in fact, limiting, and that one of ordinary skill would be familiar with many ways of achieving a sealing connection. With regard to the prosecution history, Watts argues that it does not limit claim 18 because claim 18 was not pending at the time any amendments were made.

XL responds that both the specification and the prosecution history specifically limit the sealingly connected limitation to the disclosed embodiment, which utilizes misaligned taper angles. XL further responds that because the prosecution history distinguishes over the prior art by virtue of the misaligned taper angles, it is clearly applicable to claim 18, even though it was later added, and creates an estoppel.

[2] We hold that the sealingly connected limitation is limited to structures utilizing misaligned taper angles. As explained below, we base our decision on the words of the limitation, the specific disclosure of the '717 patent, and the distinguishing remarks contained in both the specification and in the prosecution history of that patent.

The sealingly connected limitation includes the recitation that the "external threads [are] dimensioned such that one such joint may be sealingly connected directly with another such joint." '717 patent, col. 8, ll. 12-14. We hold that the claim language "dimensioned such that" is not clear on its face. Accordingly, we resort to the specification for clarification. We reject Watts' contention that we cannot consider the specification in this case. First, as just stated, the terms of the sealingly connected limitation are not clear on their face. Second, even if they were clear on their face, we must consult the specification to determine if the patentee redefined any of those terms. *See Vitronics*, 90 F.3d at 1582, 39 USPQ2d at 1576.

The specification only describes one method in which "tapered external threads [are] dimensioned" to achieve the sealing

connection, as required in claim 18 of the '717 patent. That method is to misalign the taper angles of the internal and external threads. *See* '717 patent, col. 3, ll. 3-14. Moreover, the specification actually limits the invention to structures that utilize misaligned taper angles, stating that "[t]he present invention utilizes [the varying taper angle] feature." '717 patent, col. 3, ll. 12-14.

We are not persuaded by Watts' two arguments, advanced at the oral hearing, that the specification was not limiting. First, Watts argued that one of ordinary skill would be aware of myriad ways to effect a sealing connection, such as by using o-rings. While this may be true, it does not overcome the fact that the specification specifies that the invention uses misaligned taper angles. *See O.I.*, 115 F.3d at 1581, 42 USPQ2d at 1781; *Wang*, 197 F.3d at 1382-83, 53 USPQ2d at 1164-65; *Modine*, 75 F.3d at 1551, 37 USPQ2d at 1612.

Second, at the oral hearing Watts also argued that the description of the preferred embodiment uses permissive language in describing the use of misaligned taper angles. We assume that Watts is referring to the specification language stating that "[s]o as to ensure a seal diameter for the connection of least diameter . . . the taper of the external thread may be made slightly less than the taper of the internal thread." '717 patent, col. 4, ll. 64-67 (emphasis added). Examining the context of this statement and the entirety of the disclosure, we do not agree that this statement discloses an embodiment without misaligned taper angles. *See Amhil Enters. Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1559, 38 USPQ2d 1471, 1474 (Fed. Cir. 1996) (stating that the court must "review the entire specification"). The specification does not explicitly discuss an embodiment without misaligned taper angles and, as discussed earlier, actually limits the invention to embodiments with misaligned taper angles. *See* '717 patent, col. 3, ll. 3-14.

The invention is similarly limited in the prosecution history, in which Watts distinguished the primary reference based on the invention's misaligned taper angles. Watts stated that in the primary reference "no thread interference" is claimed which teaches away from the present invention." It is clear that the phrase "no thread interference" refers to the interference caused by the misaligned taper angles. Thus, Watts cannot now maintain that his invention does not require misaligned

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taper angles. See *Biomedex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 862-63, 20 USPQ2d 1252, 1262 (Fed. Cir. 1991) (affirming the use of prosecution history to construe a claim, while also noting the clear distinction between such a use and the doctrine of prosecution history estoppel which estops later expansion of a claim's protection under the doctrine of equivalents).

We find Watts' argument that the prosecution history does not apply to the sealingly connected limitation of claim 18 to be baseless. It is irrelevant in this case whether Watts' prosecution history remarks were directed to claim 18 specifically because there is no clear indication that they were not. See *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1579, 34 USPQ2d 1673, 1679 (Fed. Cir. 1995) ("[A]rguments made during prosecution regarding the meaning of a claim term are relevant to the interpretation of that term, in every claim of the patent absent a clear indication to the contrary."). While Watts' remarks occur in a discussion of the rejection of claim 1, they are general in nature and apply to any claim that contains the sealingly connected limitation. This characterization is reinforced by the fact that Watts had already canceled claim 1. Moreover, the context of his remarks suggests that he was distinguishing the primary reference from the newly presented claims, including claim 16 (which later became claim 2). Further, Watts stated in a subsequent response to the U.S. Patent and Trademark Office that newly added claim 32 (which later became claim 18) was "another embodiment of allowed claim 16."

Our analysis applies to all three claims in suit. The '411 specification includes the same statement limiting the invention to structures utilizing misaligned taper angles. See '411 patent, col. 5, ll. 23-32. The context of the prosecution history reveals that the remark which distinguishes the primary reference applies equally to all of the claims of the '717 patent. See *Southwall Techs.*, 54 F.3d at 1579, 34 USPQ2d at 1679. Further, the prosecution history of the '717 patent also applies to claim 1 of the '411 patent because: (1) the '411 patent is a continuation-in-part of the '717 patent; (2) claim 1 of the '411 patent also has a sealingly connected limitation; and (3) the prosecution history of the '411 patent contains nothing to the contrary. See *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 980, 52

USPQ2d 1109, 1114 (Fed. Cir. 1999) ("When multiple patents derive from the same initial application, the prosecution history regarding a claim limitation in any patent that has issued applies with equal force to subsequently issued patents that contain the same claim limitation."); *Southwall Techs.*, 54 F.3d at 1579, 34 USPQ2d at 1679.

D. Non-Infringement of the Sealingly Connected Limitation

To find non-infringement, a district court must hold that the alleged infringer does not infringe any of the claims at issue either literally or under the doctrine of equivalents ("DOE"). See, e.g., *Jeneric/Pentron, Inc. v. Dillon Co., Inc.*, 205 F.3d 1377, 1383, 54 USPQ2d 1086, 1091 (Fed. Cir. 2000). For any given claim, "infringement is avoided when one element (or substitute falling within a permissible range of equivalents), is absent." *Senmed, Inc. v. Richard-Allan Med. Indus., Inc.*, 888 F.2d 815, 818 n.5, 12 USPQ2d 1508, 1514 n.5 (Fed. Cir. 1989), *disapproved on other grounds by Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83 [26 USPQ2d 1721] (1993).

After construing both of the functional limitations, the district court held that none of the claims in suit were infringed. See *Watts*, slip op. at 5. The district court based this decision "upon the undisputed and stipulated facts," which were briefly discussed earlier. *Watts v. XL Systems, Inc.*, No. 97-CV-261 (E.D. Tex. July 15, 1999) (Order). At the oral hearing before this court, Watts argued that those stipulations require both of the functional statements to be limited to the disclosed embodiments before non-infringement is conceded. We agree that the first stipulation requires that both functional statements be construed as means-plus-function limitations before non-infringement is conceded under that stipulation. However, the second and third stipulations are not so limited, and we hold, based on those stipulations, that Watts has conceded as a matter of law that XL does not infringe any of the claims at issue as construed.

[3] The second stipulation states, with emphasis added, that: "Specifically, as to literal infringement, XL Systems does not use any of the following, or equivalents thereof, described in the specifications of the '717 and '411 patents for the above-referenced claim limitations: (i) . . . (ii) . . . (iii) differing taper angles between connecting pipe ends; or (iv)

....” This “stipulation, like any contract, presents a legal question that we address de novo.” *Kearns v. Chrysler Corp.*, 32 F.3d 1541, 1545, 31 USPQ2d 1746, 1749 (Fed. Cir. 1994). We hold that the second stipulation unequivocally concedes that XL does not use differing taper angles. It is undisputed that the misaligned taper angles described in the specification employ different taper angles. Therefore, having construed the sealingly connected limitation to require the use of misaligned taper angles, we uphold the district court’s conclusion that there is no literal infringement.

The third stipulation states, with emphasis added, that:

As to infringement under the doctrine of equivalents, XL Systems does not use *any* structures that perform the same function, in the same way, to achieve the same result, or are insubstantially different from, the aforementioned structures described in the specifications of the ‘717 and ‘411 patents for the above-referenced claim limitations.

We hold that this stipulation disclaims any possible infringement under the DOE if the accused product does not utilize differing taper angles between connecting pipe ends. Given that XL does not use differing taper angles, we uphold the district court’s conclusion that there is no infringement under the DOE.

CONCLUSION

The district court incorrectly held claims 2 and 18 of the ‘717 patent and claim 1 of the ‘411 patent to be in means-plus-function format but correctly construed the sealingly connected limitation of the claims at issue to be limited to embodiments utilizing misaligned taper angles. Given this construction and the stipulations of the parties, we affirm the district court’s judgment of non-infringement. The issue of invalidity, presented as an alternative argument and not as a cross-appeal, is deemed moot.

AFFIRMED

Stewart v. Vista Point Verlag

U.S. District Court
Southern District of New York

No. 99 Civ. 4225 (LAP)
Decided September 29, 2000

JUDICIAL PRACTICE AND PROCEDURE

[1] Jurisdiction — Personal jurisdiction (§ 405.11)

German corporation’s sales of its German-language travel magazines and guide books do not establish personal jurisdiction over defendant corporation in copyright infringement action brought in New York, since plaintiff has failed to establish prima facie case that accused publications were sold directly to purchasers in New York, and since defendant has submitted evidence affirmatively disproving plaintiff’s allegation that defendant had dealings with New York residents.

[2] Jurisdiction — Personal jurisdiction (§ 405.11)

Copyright plaintiff’s allegation that German corporation accepted her direct order for allegedly infringing guidebook, and indicated that book would be shipped directly to her in New York, does not confer personal jurisdiction over corporation in New York court, since contact was initiated by plaintiff, not by defendant corporation; plaintiff’s allegation that she received allegedly infringing books from on-line vendors likewise fails, since defendant did not sell its publications to on-line companies, and was not responsible for sale or shipment of books to New York.

[3] Jurisdiction — Personal jurisdiction (§ 405.11)

German corporation’s maintenance of World Wide Web site is not sufficient to justify exercise of personal jurisdiction over corporation in copyright infringement action brought in New York, even though defendant’s Web site is accessible to New York residents, since defendant’s site, like its allegedly infringing tour guide, is written in German, and does not target New York residents, and since defendant’s maintenance of site therefore is not sufficient to satisfy foreseeability requirement of N.Y. C.P.L.R. § 302(a)(3)(ii).

Appendix 5:

In re Venezia, 530 F.2d 956, 189 U.S.P.Q. 149 (C.C.P.A. 1976)

ations are not supported

e now of record, in our t Rinehart's allegations. the processes of Pengilly t satisfactorily be scaled allged nor rebutted. erence to "commercial the claims and affidavit lish patentability, it does nment of the invention. oblem solved and gives hart's contribution. The ore be considered, and be evaluated, in the light ve commercially effective appear hereinbelow, the so spotlights portions of sures indicating unobimised process.

ngilly and Munro both or polyester production ion. Rinehart's affidavit gan with an effort to if Pengilly on a commer-at the only essential he claimed process and s the employment of ressure.

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The question remains ve been obvious, in scal-cess, to have employed sures or in scaling up ve employed Pengilly's

below did not meet the blishing some predic-ny attempt to combine nce processes in a com-on. As in *In re Naylor*, 2d 765, 152 USPQ 106 ng in the record which inary skill to anticipate on a commercial scale n of such elements, glycol-acid ratio. The the contrary. The view have been "inherent" ubstitute for a showing ectation of success. ousness are entirely n *re Spormann*, 53 d 444, 150 USPQ 449 s, 53 CCPA 996, 356 742 (1966).

The board cited the indication in both Pengilly and Munro that their processes led to rapid reaction time and concluded that improved reaction time would be expected if elements of those processes were combined. The evidence of record establishes, however, that reaction times of both prior processes lengthen as the processes are scaled up.

The board held the view that Munro's teaching of higher pressures to increase reaction rate would have provided an obvious solution to the problem Rinehart encountered in scaling up the process of Pengilly. But Rinehart's problem was not the need for increased reaction rate. It was, as the evidence established, the existence of lumps of frozen polymer. That problem is nowhere alluded to in either Pengilly or Munro, and of course no suggestion of a solution appears in either reference.

Moreover, Pengilly suggested that superatmospheric pressure was productive of certain disadvantages, particularly the need for use of a "large excess" of glycol. The use of superatmospheric pressure in a direct esterification process was referred to in other prior patents of record. With the exception of Munro, however, each such reference cited disadvantages of its use or an inability to find it workable. Munro's disclosure of superatmospheric pressure is rendered an abstraction with respect to appellant's problem by Munro's indication of the same excess glycol requirement when a large scale operation is contemplated. Munro employs a large excess of glycol (a ratio of glycol to acid of 3:1) in his example 5, the only example devoted to larger scale production. Rinehart's large scale production process is limited to a substantially equimolar ratio of glycol to acid. In view of all of the evidence, we cannot agree that Munro would suggest to one skilled in the art the use of superatmospheric pressure to solve the problem of scaling up the process of Pengilly.

Similarly, we find no suggestion in Pengilly or in Munro that Pengilly's preformed ester be employed in Munro's process to overcome the problems encountered in scaling up the process of Munro. Munro, as co-inventor with Lewis in earlier British Patent No. 776,282, was familiar with the use of a preformed polyester in direct esterification, yet neither Munro nor his co-inventor Maclean suggested its use with superatmospheric pressure in the cited reference. We find that the Munro patent contains its own solution to large scale operation, i.e., the use of excess glycol referred to above. That solution is not employed by appellant.

[10] Absence of any suggestion in either Pengilly or Munro that features of the

process of one should be combined with features of the other to achieve the commercial scale production of which neither is capable requires a holding that the rejection herein was improper. *In re Avery*, 518 F.2d 1228, 186 USPQ 161 (CCPA 1975). In view of that holding, it is unnecessary to consider Rinehart's allegations of commercial success and satisfaction of long-felt need.

The decision of the board is reversed.

Court of Customs and Patent Appeals

In re Venezia

No. 75-601 Decided Mar. 11, 1976

PATENTS

1. Claims — Indefinite — In general (§20.551)

Construction of specification and claims — Defining terms (§22.45)

Claims that define claimed invention's metes and bounds with reasonable degree of precision and particularity are 35 U.S.C. 112, second paragraph, definite; claim language calling for sleeves "adapted to be fitted" over insulating jacket imparts structural limitation to sleeve rather than merely directing activities to take place in future; structures of components of completed assembly may be defined in terms of interrelationship of components, or attributes they must possess, in completed assembly.

2. Claims — Indefinite — Mechanical (§20.556)

Claims reciting all essential parts of "kit" of parts that may or may not be made into completed assembly are not incomplete for failing to recite completed assembly.

3. Claims — Indefinite — In general (§20.551)

In re Collier, 159 USPQ 266, is inapposite to claims containing language precisely defining present structural attributes of interrelated component parts of "kit" so that later assembly may be effected, rather than describing activities that may or may not occur.

4. Double patenting — In general (§33.1)

Patentability — Subject matter for patent monopoly — In general (§51.601)

Court of Customs and Patent Appeals decisions on double patenting are not

applicable to interpreting 35 U.S.C. 101 "any manufacture;" Section 101 "same invention" type double patenting cases construe "a patent therefore."

5. Patentability — Subject matter for patent monopoly — In general (§51.601)

Group or "kit" of interrelated parts is 35 U.S.C. 101 "manufacture," and is not excluded from patent protection.

Particular patents — Splicing

Venezia, Method of Splicing High Voltage Shielded Cables and Splice Connector Therefor, rejection of claims 31-36 reversed.

Appeal from Patent and Trademark Office Board of Appeals.

Application for patent of J. William Venezia, Serial No. 31,500, filed Apr. 24, 1970. From decision rejecting claims 31-36, applicant appeals. Reversed.

Donald R. Dunner, and Lane, Aitken, Dunner & Ziems, both of Washington, D.C. (S. Michael Bender, North Tarrytown, N.Y., Richard A. Craig, New York, N.Y., and Arthur Jacob, Hackensack, N.J., of counsel) for appellant.

Joseph F. Nakamura (T.E. Lynch, of counsel) for Commissioner of Patents and Trademarks.

Before Markey, Chief Judge, and Rich, Baldwin, Lane, and Miller, Associate Judges.

Lane, Judge.

This is an appeal from the decision of the Patent and Trademark Office Board of Appeals (board) affirming the rejections of claims 31 through 36 in application serial No. 31,500, filed April 24, 1970, for "Method of Splicing High Voltage Shielded Cables and Splice Connector Therefor." We reverse.

The Invention

Appellant's invention is a splice connector having interrelated parts adapted to be assembled in the field to provide a splice connection between a pair of high voltage shielded electric cables.

Appellant's application contains claims drawn to the completed connector and to the method of making the splice connection, which have been allowed by the Patent and Trademark Office. On appeal before us are claims drawn to a splice connector "kit" consisting of the parts which are used in

making the splice in their unassembled condition.

Claim 31, with our emphasis, is representative of the claims on appeal:

31. A splice connector kit having component parts *capable of being assembled* in the field at the terminus of high voltage shielded electrical cables for providing a splice connection between first and second such cables, said cables each having a conductor surrounded by an insulating jacket within a conductive shield wherein a portion of the conductive shield is removed to expose the insulating jacket and a portion of the insulating jacket is removed to expose the conductor at the terminus of the cable, the kit comprising the combination of:

a pair of sleeves of elastomeric material, each sleeve of said pair *adapted to be fitted* over the insulating jacket of one of said cables, each said sleeve having an external surface and a resiliently dilatable internal bore for gripping the insulating jacket to increase the dielectric strength of the creep path along the insulating jacket;

electrical contact means *adapted to be affixed* to the terminus of each exposed conductor for joining the conductors and making an electrical connection therebetween;

a pair of retaining members *adapted to be positioned* respectively between each of said sleeves fitted over the insulating jacket of each said cable and the corresponding terminus of each said cable, said retaining members each having means cooperatively associated therewith for maintaining each said member's position relative to the insulating jacket on each said cable and for precluding axial movement of the sleeve toward the corresponding terminus of each said cable; and

a housing; said housing having an internal bore extending therethrough from end to end, said housing including portions adjacent each end thereof defining said internal bore and being resiliently dilatable *whereby said housing may be slideably positioned* over one of said cables and *then slideably repositioned* over said sleeves, said retaining members, and said contact means *when said sleeves, said retaining members and said contact means are assembled* on said cables as hereinaforesaid, said resiliently dilatable portions of said housing respectively gripping the corresponding external surface of each said sleeve in watertight sealing relationship therewith and said housing having a further portion intermediate its ends defining said internal bore and forming a sealed chamber

enclosing at least said contact means and the exposed portions of said cable conductors *when said housing is in its repositioned location.*

The Rejections

Claims 31-36 were rejected under 35 USC 112, second paragraph, as indefinite and incomplete in not defining a completed article of manufacture. The examiner particularly relied on *In re Collier*, 55 CCPA 1280, 397 F.2d 1003, 158 USPQ 266 (1968), as support for this rejection.

Claims 31-36 were additionally rejected under 35 USC 101 because they were drawn to a plurality of separately and discretely listed and defined manufactures instead of a manufacture.

The Board

The board at first unanimously sustained both of the above rejections. With respect to the section 112 rejection it stated:

In the *Collier* case, the two elements [see bracketed elements [1] and [2] of *Collier* claim 17, *infra*] recited specifically in the claims there under consideration were described in terms of intended uses and capability, and the like. The Court said:

"We agree with the Board, however, that the claim does not positively recite structural relationships of the two elements, identified as (1) and (2) above, in its recitation of what may or may not occur. In this sense it fails to comply with section 112, [second paragraph] In [sic] failing distinctly to claim what appellant in his brief insists is his actual invention."

An inspection of the claims here under consideration, see for example claim 31 above, discloses a similar situation. Although the preamble refers to the structure as a "kit", the elements are recited without present cooperation. The language is futuristic and conditional in character, thus, a pair of sleeves - to be fitted - electrical contact means - to be affixed - a pair of retaining members [sic, members] - to be positioned - a housing - may be slideably positioned - slideably repositioned - when said sleeves are assembled on said cables - when said housing is in its repositioned location.

From the above it is clear that the language of the claim taken as an example is directed to assembly to take place in the future. No present positive structural relationships are recited.

In affirming the section 101 rejection the board stated:

[Appellant] urges that the elements of his claimed combination are "joined together in a kit of component parts". Such joining as may be recited in the claims, as we have pointed out above in connection with the rejection under 35 USC 112, relates to matters which may take place in the future. No *present* coercion is recited. The presence of the word "kit" in the preamble, we do not think fairly links the elements separately recited in the claims. Appellant has referred to no language in the claims which would support such "joining" and we know of none. [Emphasis in original.]

In a subsequent decision, upon reconsideration, one of the board members dissented, finding that appellant had distinctly claimed what he regarded as his invention under section 112. The dissenting member of the board also found that it was not fatal under section 101 that the cooperation of the claimed elements was recited as occurring at a future time.

This posture of the board remained intact following a third opinion rendered after a second request for reconsideration by appellant.

Opinion

Section 112 Rejection

[1] We have reviewed the disputed claims and in particular the language criticized by the examiner and the board. We conclude that the claims do define the metes and bounds of the claimed invention with a reasonable degree of precision and particularity, and that they are, therefore, definite as required by the second paragraph of section 112. In *re Conley*, 490 F.2d 972, 180 USPQ 454 (CCPA 1974); In *re Miller*, 58 CCPA 1182, 441 F.2d 689, 169 USPQ 597 (1971); In *re Borkowski*, 57 CCPA 946, 422 F.2d 904, 164 USPQ 642 (1970). As we view these claims, they precisely define a group or "kit" of interrelated parts. These interrelated parts may or may not be later assembled to form a completed connector. But what may or may not happen in the future is *not* a part of the claimed invention. The claimed invention does include present structural limitations on each part, which structural limitations are defined by how the parts are to be interconnected in the final assembly, if assembled. However, this is not to say that there is anything futuristic or conditional in the "kit" of parts itself. For example, paragraph two of claim 31 calls for "a pair of sleeves * * * each sleeve of said pair *adapted to be fitted* over the insulating jacket of one of said cables." Rather than being a mere direction

of activities to take place in the future, this language imparts a structural limitation to the sleeve. Each sleeve is so structured or dimensioned that it can be fitted over the insulating jacket of a cable. A similar situation exists with respect to the "adapted to be affixed" and "adapted to be positioned" limitations in the third and fourth paragraphs of the claim. The last paragraph of claim 31 contains additional language criticized by the board, including "may be slideably positioned," "slideably repositioned," "when said sleeves * * * are assembled," and "when said housing is in its repositioned location." However, this language also defines present structures or attributes of the part of the "kit" identified as the housing, which limits the structure of the housing to those configurations which allow for the completed connector assembly desired. Again, a present structural configuration for the housing is defined in accordance with how the housing interrelates with the other structures in the completed assembly. We see nothing wrong in defining the structures of the components of the completed connector assembly in terms of the interrelationship of the components, or the attributes they must possess, in the completed assembly. More particularly, we find nothing indefinite in these claims. One skilled in the art would have no difficulty determining whether or not a particular collection of components infringing the collection of interrelated components defined by these claims. In re Miller, *supra*.

[2] We also fail to see any basis for rejecting appellant's claims for being incomplete in failing to recite a completed assembly. Appellant's invention is a "kit" of parts which may or may not be made into a completed assembly. Since all of the essential parts of the "kit" are recited in the claims, there is no basis for holding the claims incomplete.

We cannot leave our discussion of the section 112 rejection without discussing In re Collier, *supra*, relied on by both the examiner and the board as support for this rejection. In Collier we were confronted by the following claim:

17: *For use in a ground connection, [1] a connector member for engaging shield means of a coaxial cable means, said connector member comprising a substantially rectangular piece of metal formed into trough form to define a ferrule-forming member, said ferrule-forming member having*

a series of perforations disposed therein toward the axis of the ferrule-forming member and defining inwardly

directed frusto-conical projections having jagged edges defining lances converging toward their tips.

said ferrule-forming member being crimpable onto said shield means with said lances keying into said shield means without penetrating insulation means disposed thereunder,

[2] *and ground wire means for disposition between said ferrule-forming member and said shield means upon the ferrule-forming member being crimped onto the shield means,*

said ground wire means being displaced in a series of bights around respective perforations to effect serpentine form when said ferrule-forming member is crimped onto said shield means. [55 CCPA at 1281-82, 397 F.2d at 1004-05, 158 USPQ at 267. (Emphasis and brackets in original opinion).]

In Collier appellant argued that we were to regard the italicized portions of claim 17 about intended uses, capabilities, and structures which would result upon the performance of future acts, as positive structural limitations. However, we found that the claim did not positively recite any structural relationship between the two elements identified as [1] and [2], in its recitation of what may or may not occur. We concluded that the claim failed to comply with section 112, second paragraph, in "failing distinctly to claim what appellant in his brief insists is his actual invention."

[3] There is no issue in this case of whether appellant is claiming what he regards as his invention. Moreover, although the claims before us contain some language which can be labeled "conditional," this language, rather than describing activities which may or may not occur, serves to precisely define present structural attributes of interrelated component parts of the "kit," such that a later assembly of the "kit" of parts may be effected. Thus, we find In re Collier inapposite to the claims presently before us.

Section 101 Rejection

35 USC 101 provides in pertinent part:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter * * * may obtain a patent therefor * * *.

Both the examiner and the board construed the language "any * * * manufacture" as excluding from its ambit claims drawn to a "kit" of parts, reasoning that a "kit" would be a plurality of separate manufactures, not a single manufacture.

o-conical projections having edges defining lances around their tips.

-forming member being said shield means with said into said shield means after insulation means dis-

er, and wire means for disposing said ferrule-forming said shield means upon the member being crimped means,

wire means being displaced rights around respective perfect serpentine form when forming member is crimped. Id means. [55 CCPA at 2d at 1004-05, 158 USPQ phasis and brackets in n).]

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provides in pertinent part: vents or discovers any new ocess, machine, manufac-sition of matter * * * may nt therefor * * *.

miner and the board con-age "any * * * manufac-ing from its ambit claims" of parts, reasoning that a e a plurality of separate ot a single manufacture.

The solicitor in his brief recognizes that the Patent and Trademark Office has in the past issued patents containing similar claims drawn to "kits" of interrelated parts.¹ He argues, however, that double patenting decisions by this court, holding that an inventor may obtain only one patent on a single invention, show that this court has interpreted portions of section 101 in the singular. From this he reasons that the word "manufacture" in section 101 is to be similarly interpreted.

[4] We do not find our decisions on double patenting to be applicable to an interpretation of the words "any manufacture" in section 101. Suffice it to say that the two situations are totally dissimilar. In the section 101 "same invention" type double patenting cases, all we were construing was the phrase "a patent therefor."

No other authority has been cited, either by the board or the solicitor, to support the narrow construction which the Patent and Trademark Office now seeks to impose on the words "any manufacture" in section 101.

[5] We do not believe the words in question are to be so narrowly construed. To hold that the words "any manufacture" exclude from their meaning groups or "kits" of interrelated parts would have the practical effect of not only excluding from patent protection those "kit" inventions which are capable of being claimed as a final assembly (e.g., a splice connector), but also many inventions such as building blocks, construction sets, games, etc., which are incapable of being claimed as a final assembly. We do not believe Congress intended to exclude any invention from patent protection merely because it is a group or "kit" of interrelated parts. We therefore hold that a group or "kit" of interrelated parts is a "manufacture" as that term is used in section 101.

Accordingly, the decision of the board is reversed.

¹ There are copies of several patents in the record which contain "kit" claims exemplifying this prior practice, including patent No. 3,108,803, claiming a basketball goal set kit, patent No. 3,041,778, claiming a puppet kit, patent No. 1,974,838, claiming a toy construction set, and patent No. 3,355,837, also claiming a toy construction set.

Patent and Trademark Office Trademark Trial and Appeal Board

In re The Cyclone Seeder Co., Inc.

Decided Oct. 20, 1975

Released Dec. 19, 1975

TRADEMARKS

1. Identity and similarity — How determined — Dominant feature (§67.4065)

Identity and similarity — Words. — Similar (§67.4117)

"Speedy" is determining element in "Cyclone Speedy Spreader," "Spreader" being disclaimed, with "Cyclone" modifying "Speedy" and suggesting enormous speed; "Cyclone Speedy Spreader" for broadcast spreader/seeders so resembles "Speedy" for corn cribs, power operated agricultural insecticide sprayers, corn shredders, and row crop shields that confusion is likely.

Appeal from Examiner of Trademarks.

Application for registration of trademark of The Cyclone Seeder Co., Inc., Serial No. 439,884. From decision refusing registration, applicant appeals. Affirmed.

Oltsch & Knoblock, South Bend, Ind., for applicant.

Before Lefkowitz and Bogorad, Members, and Rice, Acting Member.

Bogorad, Member.

An application has been filed by The Cyclone Seeder Co., Inc. to register the mark "CYCLONE SPEEDY SPREADER", the word "SPREADER" being disclaimed, for broadcast spreader/seeders.

Registration has been refused under Section 2(d) of the Act of 1946 on the ground that applicant's mark as applied to the goods specified in its application so resembles the previously registered mark "SPEEDY" for corn cribs, power operated agricultural insecticide sprayers, corn shredders and row crop shields for use on cultivators' as to be likely to cause confusion or mistake or to deceive.

¹ Reg. No. 680,737 issued June 23, 1959, affidavit under Sec. 8 accepted, affidavit under Sec. 15 received.

Appendix 6:

United States Surgical Corp. v. Ethicon Inc., 103 F.3d 1554, U.S.P.Q.2d 1225 (Fed. Cir. 1997),
cert. denied, 522 U.S. 950 (1997)

**U.S. Court of Appeals
Federal Circuit**

United States Surgical Corp. v. Ethicon Inc.

Nos. 94-1386, -1419

Decided January 3, 1997

PATENTS

**1. Patentability/Validity — Obviousness —
In general (§115.0901)**

**JUDICIAL PRACTICE AND
PROCEDURE**

Procedure — Jury trials (§410.42)

Federal district court properly instructed jury on issue of obviousness in patent infringement action, since jury was correctly instructed on presumption of validity and that defendant bore burden of proving invalidity by clear and convincing evidence, and that it was necessary to consider scope and content of prior art, differences between prior art and claimed invention, level of ordinary skill in art, and objective criteria of non-obviousness, since instructions included explanation of principles to be applied in determining obviousness when invention is combination of prior art components, and since instructions were correct in law, thorough, and clearly stated.

PATENTS

**2. Patentability/Validity — Obviousness —
In general (§115.0901)**

Patent construction — Claims — In general (§125.1301)

Federal district court need not repeat or restate every claim term in order to comply with rule that claim construction is for court rather than jury, since claim construction is matter of resolution of disputed meanings and technical scope, to clarify and if necessary explain what patentee covered by claims, for use in determination of infringement, rather than obligatory exercise in redundancy; although claim construction may occasionally be necessary in obviousness determinations, when meaning or scope of technical terms and words of art is unclear and requires resolution in order to determine obviousness, in present case none of rejected jury instructions concerning claim construction was directed to, or has been reasonably shown to affect, determination of obviousness.

PATENTS

**3. Patentability/Validity — Obviousness —
In general (§115.0901)**

**JUDICIAL PRACTICE AND
PROCEDURE**

Procedure — Jury trials (§410.42)

Federal district court did not commit prejudicial error by providing dictionary to jury during its deliberations in patent infringement trial in which asserted claims were held invalid for obviousness, since district court explained in post trial opinion that jury instruction to consider ordinary meaning of claim language, and general assumption that definitions of dictionary are common knowledge with which jury is charged, support provision of dictionary, since provision of dictionary to jury, although not favored, is not grounds for new trial, and since plaintiff has offered no specifics as to words whose dictionary definitions may have adversely affected verdict of obviousness, and no suggestion that jury disregarded court's instructions on law of obviousness or plain meaning of terms used in claims and prior art.

PATENTS

**4. Patentability/Validity — Obviousness —
In general (§115.0901)**

Patent construction — Claims — In general (§125.1301)

**JUDICIAL PRACTICE AND
PROCEDURE**

Procedure — Jury trials (§410.42)

Federal district court's rejection of proposed jury instructions directed to construction of patent claims did not prejudice jury's determination of obviousness, since district court is not required to parse claims for jury in every case, whether or not there is issue in material dispute as to meaning or scope of claims, since infringement plaintiff has not shown that there are unclear or ambiguous technical terms or words of art or related aspects of claim scope whose "construction" would negate verdict of obviousness; and has not explained how any reasonable claim construction it requested would have deprived obviousness verdict of its support, and since trial court is not authorized to remove from jury factual findings underlying obviousness determination.

Particular patents — General and mechanical — Surgical clip application

5,084,057, Green, Bolanos, Young, McGarry, Heaton, and Ratcliff, apparatus

ent Order revises the reference to
ve date of copyright restoration
Uruguay Round Agreements Act
in the Court's August 19, 1996
USPQ2d 1506] granting plain-
on for Partial Summary Judg-
he August 19, 1996 Order, the
red to Presidential Proclamation
of December 23, 1994 (60 Fed.
(Jan. 4, 1995)) to conclude that
restoration for URAA works was
1995. See Order at pages 13, 16.
er Presidential document, Procla-
6780 of March 23, 1995 (60 Fed.
(March 27, 1995)) clarifies that
of the Uruguay Round Agree-
ade-Related Aspects of Intellec-
ty Rights (TRIPs) relating to
restoration did not take effect until
1996. Proclamation No. 6780
rinent part at Section 5:
le 65, paragraph 1, of the TRIPs
nt provides that no WTO mem-
be obliged to apply to provisions
greement until one year after the
entry into force of the WTO
nt with respect to the United
is January 1, 1995.
statement of administrative ac-
oved by the Congress in section
of the URAA (19 U.S.C.
2)) provides that, "in general,
will be restored on the date
IPs Agreement's obligations take
the United States."
dingly, I have decided that it is
and appropriate, in order to im-
he TRIPs Agreement and to en-
section 514 of the URAA is
tely implemented, to proclaim
late on which the obligations of
s Agreement will take effect for
d States is January 1, 1996.
n No. 6780 of March 23, 1995
g. 15845 (March 27, 1995)).
t emphasizes that the present
does not affect the Court's Au-
6 ruling.

ORDERED.

and method for applying surgical clips in laparoscopic or endoscopic procedures, judgment that claims 1, 2 and 7 are invalid for obviousness affirmed.

5,100,420, Green, Bolanos, Young, McGarry, Heaton, and Ratcliff, apparatus and method for applying surgical clips in laparoscopic or endoscopic procedures, judgment that claim 1 is invalid for obviousness affirmed.

On remand from the U.S. Supreme Court. Action by United States Surgical Corp. against Ethicon Inc. and Johnson & Johnson Hospital Services Inc. for patent infringement. The U.S. District Court for the District of Connecticut entered judgment for defendants on jury verdicts that plaintiff's patent no. 5,100,420 is infringed but invalid for obviousness, and that plaintiff's patent no. 5,084,057 is not infringed and invalid for obviousness. On appeal, the U.S. Court of Appeals for the Federal Circuit affirmed without opinion pursuant to Fed.Cir.R. 36. Following grant of certiorari, the U.S. Supreme Court vacated that affirmance and remanded for further consideration in light of its decision in *Markman v. Westview Instruments Inc.* (38 USPQ2d 1461). On remand, district court's judgment is affirmed on ground of invalidity of patents in suit based on obviousness.

William E. McDaniels, J. Alan Galbraith, and David S. Blatt, of Williams & Connolly, Washington, D.C.; Basam E. Nabulsi, Thomas R. Bremer, and John C. Andres, Norwalk, Conn., for plaintiff-appellant.

David F. Dobbins, Gregory L. Diskant, and Eugene M. Gelernter, of Patterson, Belknap, Webb & Tyler, New York, N.Y., for defendants/cross-appellants.

Before Newman, circuit judge, Bennett, senior circuit judge, and Rader, circuit judge.

Newman, J.

The court's prior judgment of this appeal and cross-appeal was vacated by the Supreme Court and remanded "for further consideration in light of *Markman v. Westview Instruments, Inc.*, 517 U.S. _____ (1996)." *U.S. Surgical Corp. v. Ethicon, Inc.*, 116 S. Ct. 1562 (1996). Our prior judgment affirmed the judgment of the United States District Court for the District of Connecticut,¹ entered on jury verdicts that claim 1 of

U.S. Surgical's United States Patent No. 5,100,420 (the '420 patent) is infringed but invalid for obviousness, and that claims 1, 2, and 7 of United States Patent No. 5,084,057 (the '057 patent) are not infringed and are invalid for obviousness. The issue of inequitable conduct during patent prosecution was decided before trial, by summary judgment in favor of U.S. Surgical. Each of U.S. Surgical and Ethicon appealed the rulings adverse to it. After full briefing and oral argument this court entered judgment pursuant to Federal Circuit Rule 36:

Rule 36: Judgment of affirmance without opinion.—

The court may enter a judgment of affirmance without opinion, citing this rule, when it determines that any of the following circumstances exist:

(a) the judgment, decision or order of the trial court appealed from is based on findings that are not clearly erroneous;

(b) the evidence in support of a jury verdict is sufficient;

(c) summary judgment, directed verdict, or judgment on the pleadings is supported by the record;

(d) the decision of an administrative agency warrants affirmance under the standard of review in the statute authorizing the petition for review; or

(e) a judgment or decision has been entered without an error of law;

and an opinion would have no precedential value.

Appeals whose judgments are entered under Rule 36 receive the full consideration of the court, and are no less carefully decided than the cases in which we issue full opinions. The Rule permits the court to dispense with issuing an opinion that would have no precedential value, when the circumstances of the Rule exist. *See Taylor v. McKeithen*, 407 U.S. 191, 194 n.4 (1972) ("We, of course, agree that the courts of appeals should have wide latitude in their decisions of whether or how to write opinions. That is especially true with respect to summary affirmances.")

Seven weeks after this decision, reported at 48 F.3d 1237 (Fed. Cir. 1995) (Table), for which rehearing and rehearing *en banc* were denied, the Federal Circuit decided *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 34 USPQ2d 1321 (Fed. Cir. 1995) (*en banc*). The Supreme Court granted certiorari in *Markman* and also upon U.S. Surgical's petition. After deciding the *Markman* appeal, reported at 517 U.S. , 116 S. Ct. 1384, 38 USPQ2d 1461 (1996), the Court instructed the Federal Circuit to give further consideration to U.S. Surgical's case in light of the

¹ *U.S. Surgical Corp. v. Ethicon, Inc.*, No. 5:92 CV 00134 (AVC), (D. Conn. Feb. 11, 1993 (Summary Judgment); February 18, 1994 (Judgment Order); June 9, 1994 (Ruling on Post-trial Motions)).

l's United States Patent No. 4,420 (the '420 patent) is infringed but obviousness, and that claims 1, 2, and 3 of United States Patent No. 5,084,057 (the '057 patent) are not infringed and are obviousness. The issue of inequitable conduct during patent prosecution was decided by summary judgment in *United States Surgical Corp. v. Ethicon Inc.*, 910 F.2d 804, 814, 15 USPQ2d 1481, 1489 (1990) ("a party may defend a judgment 'on any ground properly raised below'") (citing *Washington v. Yakima Indian Nation*, 439 U.S. 463, 476 n.20 (1979)); *Lough v. Brunswick Corp.*, 86 F.3d 1113, 1123, 39 USPQ2d 1100, 1107 (Fed. Cir. 1996) ("No further public interest is served by our resolving an infringement question after a determination that the patent is invalid."). We now fully explain our decision.

Judgment of affirmance with-

rt may enter a judgment of affirmance without opinion, citing this it determines that any of the circumstances exist:

judgment, decision or order of appeal appealed from is based on that are not clearly erroneous; evidence in support of a jury verdict is sufficient;

ary judgment, directed ver- gment on the pleadings is sup- ie record;

decision of an administrative agency's affirmance under the review in the statute authoriz- ion for review; or

gment or decision has been out an error of law; opinion would have no preceden-

judgments are entered under e the full consideration of the e less carefully decided than ich we issue full opinions. The he court to dispense with issu- that would have no preceden- en the circumstances of the e *Taylor v. McKeithen*, 407 n.4 (1972) ("We, of course, courts of appeals should have their decisions of whether or inions. That is especially true summary affirmances.")

after this decision, reported (Fed. Cir. 1995) (Table), for g and rehearing *en banc* were deral Circuit decided *Mark- w Instruments, Inc.*, 52 F.3d 2d 1321 (Fed. Cir. 1995) (*en reme* Court granted certiora- and also upon U.S. Surgical's deciding the *Markman* ap- t 517 U.S., 116 S. Ct. 1384, 51 (1996), the Court instruct- Circuit to give further consid- Surgical's case in light of the

Court's decision in *Markman*. We have done so.

The judgment of the district court is affirmed, on the ground of invalidity of the '420 and '057 patents based on obviousness. We do not reach the issues of infringement and the conditional cross-appeal of the issue of inequitable conduct. See *Consolidated Aluminum Corp. v. Foseco Int'l Ltd.*, 910 F.2d 804, 814, 15 USPQ2d 1481, 1489 (1990) ("a party may defend a judgment 'on any ground properly raised below'") (citing *Washington v. Yakima Indian Nation*, 439 U.S. 463, 476 n.20 (1979)); *Lough v. Brunswick Corp.*, 86 F.3d 1113, 1123, 39 USPQ2d 1100, 1107 (Fed. Cir. 1996) ("No further public interest is served by our resolving an infringement question after a determination that the patent is invalid."). We now fully explain our decision.

The U.S. Surgical Inventions

The inventions claimed in the '420 patent and its continuation-in-part the '057 patent are for a surgical instrument for ligating blood vessels and other tissues during endoscopic surgery, by applying multiple ligating clips in sequence.

Endoscopic surgery is a procedure where- by instead of opening the abdomen or other body cavity by incision to provide open access to the surgical site, the surgery is performed by inserting the surgical instruments into the body through small tubes called trocars. The small size of the incisions that accommodate the trocars results in less tissue damage, less pain, and faster healing than for traditional open surgery. In performing endoscopic surgery the body cavity is inflated with a gas, called an insufflating gas, to provide working space. For most procedures today a miniature video camera is used to televise the surgical site, the enlarged video image appearing upon an exter-

nal screen and guiding the surgeon or surgical team in manipulating the instruments through the trocars.

Endoscopic surgery was in somewhat limited use for many years, having been used mostly for the ligation of fallopian tubes, the surgeon viewing the site through an eyepiece. Endoscopic procedures experienced rapid expansion after about 1989, particularly for gallbladder removal. Witnesses disputed at trial whether the expansion was due to the development of the miniature video camera or the development of U.S. Surgical's endoscopic multiple clip applier.

During both endoscopic and open surgery, blood vessels may be closed and tissues clamped using small "U" shaped clamps called ligating clips. Ligating clips are applied by an instrument that positions the clip about the tissue or vessel to be secured and then compresses the clip. When initially developed, ligating clip instruments were capable of being loaded with only one clip at a time, and required reloading between each application. Then U.S. Surgical developed a ligating clip applier for open surgical use that applied multiple clips in succession, without reloading the instrument. This instrument, having the brand name "Premium Surgiclip," is the subject of United States Patent No. 5,030,226 (the '226 patent). The Premium Surgiclip and the '226 patent are prior art to the '420 and '057 patents in suit, and were the subject of extensive testimony at trial.

At trial witnesses explained the subsequent development of the instrument of the patents in suit, a ligating clip applier for endoscopic use that applies multiple clips in succession without withdrawing and reloading the instrument. U.S. Surgical's instrument, having the brand name EndoClip, was the first multiple clip applier for endoscopic use. The instrument is depicted in the '420 patent as follows:

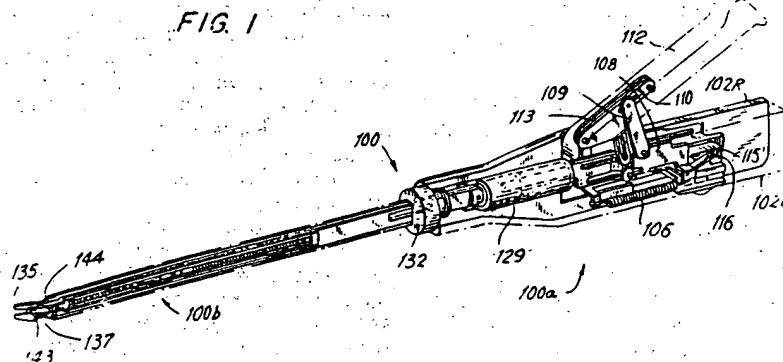


Fig. 1 of '420 patent.

The instrument is depicted in the '057 patent with a different handle, as follows:

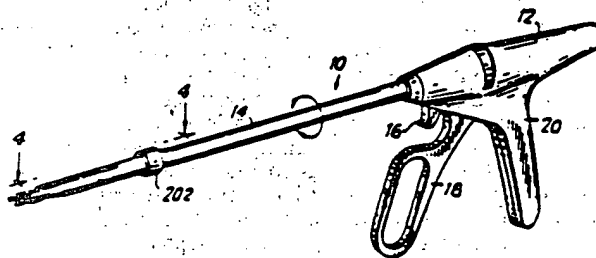


Fig. 1 of '057 patent.

It is seen that these instruments have an elongated shank that holds the ligating clips and is shaped for endoscopic use through a trocar. After insertion into the body cavity a clip is pushed into position in the jaws using controls on the handle, and the clip is applied to the tissue to be ligated by closing the jaws using controls on the handle. The jaws are then opened and the next clip is pushed into position. Thus successive clips may be applied without withdrawing the instrument from within the body.

Claim 1 of the '420 patent is directed to the combination of the trocar and the clip applier, each component having defined limitations. Claim 1 is the only '420 patent claim in suit:

1. In combination:

a) a trocar having a cannula, and valve means for sealing said cannula, said cannula being adapted for entry into a body cavity;

b) an endoscopic clip applier having:

i) a frame;

ii) an endoscopic portion defining a longitudinal axis and extending distally from said frame, said endoscopic portion being insertable into said cannula through said valve means in sealing engagement therewith, said endoscopic portion further including a plurality of surgical clips disposed in an array and clip closing means for sequentially closing said surgical clips; and

iii) seal means associated and adapted to cooperate with at least one of said endoscopic portion and said frame to obstruct passage of gaseous media from the body cavity.

Claim 1, the broadest claim of the '057 patent, also describes the endoscopic apparatus as comprising several elements. The claim elements are defined in terms of their function, as provided in 35 U.S.C. §112 ¶6:

1. An apparatus for endoscopic application of surgical clips to body tissue which comprises:

a) frame means;

b) endoscopic means connected to said frame means of generally elongated configuration and extending distally from said frame means and including:

i) means for storing a plurality of surgical clips;

ii) means for individually advancing said clips to the distal portion of said endoscopic means for positioning adjacent the body tissue to be clipped;

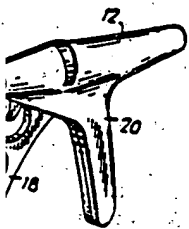
iii) means for at least partially closing said clip at least sufficient to grip the body tissue after the clip has been advanced distally to said distal portion of said endoscopic means; and

iv) gaseous sealing means.

Claim 2 of the '057 patent specifies the use of silicon grease as the gaseous sealing means of clause iv, and claim 7 is directed to a disposable device as in claim 1.

Ethicon's defense that the claims are invalid for obviousness was based on the ground that U.S. Surgical had merely adapted to endoscopic use its own, prior art multiple clip applier, the Premium Surgiclip of the '226 patent, by known and routine adaptation. Thus Ethicon presented evidence and argument that U.S. Surgical had simply elongated the body of its prior art multiple clip applier so that it could be used through a trocar, with a sealing means to prevent escape of the insufflating gas through the trocar. Ethicon adduced extensive evidence that such adaptation was well known to persons of ordinary skill in the field of endoscopic instruments. U.S. Surgical countered with evidence and argument to the contrary.

The jury held, by special verdicts, that the claims in suit were invalid for obviousness. On appellate review we determine whether, on correct instructions of law, there was substantial evidence whereby a reasonable jury could have reached the verdict reached by this jury. See *Litton Sys., Inc. v. Honeywell, Inc.*, 87 F.3d 1559, 1566, 39 USPQ2d



1321, 1324 (Fed. Cir. 1996) ("Substantial evidence describes that minimum quantum of evidence from which a jury might reasonably afford relief."); *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 72 F.3d 857, 862, 37 USPQ2d 1161, 1163 (Fed. Cir. 1995) ("Substantial evidence is such relevant evidence, on the record as a whole, as could be accepted by a reasonable mind as adequate to support the verdict.") Conflict of evidence and argument must be viewed as resolved favorably to the party in whose favor the jury found. The reviewing court must give appropriate deference to the jury's choices in weighing the evidence, in deciding between opposing positions, and in drawing factual inferences. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989) ("the appellate court's function is exhausted when that evidentiary basis [of the jury's verdict] becomes apparent, it being immaterial that the court might draw a contrary inference or feel that another conclusion is more reasonable.") (quoting *Lavender v. Kurn*, 327 U.S. 645, 653 (1946)); *Medtronic, Inc. v. Intermedics, Inc.*, 799 F.2d 734, 742, 230 USPQ 641, 646 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1033 (1987).

The Prior Art

As we have remarked, Ethicon's position was that U.S. Surgical had simply elongated its prior art multiple ligating instrument so that it could be inserted through a trocar, and used known endoscopic sealing mechanisms to inhibit escape of the insufflating gas through the trocar. Expert witnesses testified that these modifications were well known to persons of ordinary skill in the art of endoscopic instruments. The witnesses presented several prior art patents, and exhibited many actual instruments, all having the common endoscopic characteristics of an elongated body and sealable engagement with the trocar.

The district court mentioned, in the opinion accompanying the denial of post-trial motions, that U.S. Surgical's technical expert testified that there were approximately forty different prior art multiple clip appliers for conventional open surgery. He testified that at least four of them — the Premium Surgiclip of the '226 patent and the multiple clip appliers shown in the Montgomery patent, the Peters patent, and the Lachakar patent — embodied all of the elements of the '420/'057 claims except for the elongated body and sealing means. He testified that an elongated body and sealing means are characteristics of all endoscopic surgical instru-

ments. In evidence were a variety of actual instruments for endoscopic surgery, all having these characteristics. These endoscopic instruments included graspers, scissors, dissectors, and single clip appliers. All had an elongated body and were adapted for sealing engagement with the trocar.

Also in evidence were references describing prior endoscopic devices for the application of multiple fasteners other than ligating clips. U.S. Patent No. 3,870,048 to Yoon showed an applier for multiple elastic rings for ligating fallopian tubes, stating that "[i]t is possible to load suture ring clips within the applicator in end-to-end series fashion. . . . This permits a number of clips to be applied during a procedure without the need of having to withdraw the applicator from the surgical field in order to load another clip into the applicator." U.S. Patent No. 4,226,239 to Polk also showed an instrument for endoscopic application of multiple ligating rings. The prior art also included at least one endoscopic multiple staple applier, Patent No. 4,944,443 to Oddsen. All of the endoscopic instruments for applying multiple fasteners had the common characteristics of elongation for use through a trocar, and most were sealed against escape of the gas through the trocar. Several references showed the use of silicon grease, as specified in claim 2 of the '057 patent, or valves, as specified in claim 1 of the '420 patent, to maintain the seal.

The testimony of U.S. Surgical's technical expert that the elongated body and the seal are common characteristics of endoscopic instruments was described by Ethicon as a concession of great weight. This evidence was stressed at trial, as Ethicon pressed its argument that U.S. Surgical had simply adapted its '226 patent multiple clip applier for endoscopic use, and that it was obvious to do so, pointing to many other instruments that had been adapted in the same way. U.S. Surgical points out that this same expert and several other expert witnesses testified about the difficulties of designing the '420/'057 endoscopic multiple clip applier and the time and cost involved. We take note of the conflicting testimony and the opposing expert opinions of witnesses for these parties, and of the lengthy explorations by these witnesses of this technology and the development and characteristics of these surgical instruments.

In comparing the '420/'057 instruments with the prior art instruments, Ethicon's patent expert testified that the prior art '226 patent was the closest prior art and that the relevant elements of the structure of the '226 patent "were adopted into the subject matter of the '057 and '420 patent applications."

same means;
endoscopic means connected to said
means of generally elongated con-
tion and extending distally from
time means and including:
means for storing a plurality of surgi-
s;
means for individually advancing
lips to the distal portion of said
clip means for positioning adjacent
y tissue to be clipped;
means for at least partially closing
at least sufficient to grip the body
fter the clip has been advanced
to said distal portion of said endos-
ans; and
seous sealing means.
the '057 patent specifies the use
ease as the gaseous sealing means
v, and claim 7 is directed to a
device as in claim 1.
defense that the claims are in-
viousness was based on the
U.S. Surgical had merely adapt-
op use its own, prior art multi-
ier, the Premium Surgiclip of the
by known and routine adapta-
Ethicon presented evidence and
hat U.S. Surgical had simply
e body of its prior art multiple
o that it could be used through a
a sealing means to prevent es-
nsufflating gas through the tro-
adduced extensive evidence that
ion was well known to persons of
l in the field of endoscopic in-
S. Surgical countered with evi-
gument to the contrary.
ld, by special verdicts, that the
were invalid for obviousness.
review we determine whether,
structions of law, there was
vidence whereby a reasonable
e reached the verdict reached
ee *Litton Sys., Inc. v. Honey-*
F.3d 1559, 1566, 39 USPQ2d

Ethicon's technical expert pointed out to the jury all of the similarities of the structure and mechanisms between the device of the '226 patent and the '420/'057 patents. He pointed to the jaws to hold the clip; the pusher for advancing a stored clip to the

jaws, the grooves in the face of the jaws to receive the clip, and the mechanism for closing the clip about the tissue to be ligated. The drawings of the jaws in the '226 patent and in the '420/'057 patents show this similarity:

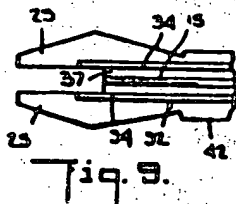


Fig 9 of 226 Patent

Witnesses testified that the operation of the '226 instrument and the '420/'057 patents was essentially the same. It was explained that in both the '226 and the '420/'057 instruments the jaw blade, clip carrier, and pusher bar are all enclosed in a channel assembly from which the jaws protrude at the end. In the '226 patent the applicator is described in the Abstract as:

The surgical clip applicator has a pusher bar which positions the foremost clip from a clip carrier into a ready-to-fire position between the jaws prior to squeezing of the handles together. When the applicator is fired, the previously positioned surgical clip can be crimped about a vessel and when the jaws are released, a new clip is placed between the jaws for the next firing. A channel assembly moves over the jaws to close the jaws while the pusher bar

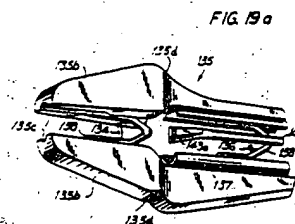


Fig 19a of 420 Patent

is retracted into the clip carrier for delivering the foremost clip from the carrier upon release of the handles.

Referring to Fig. 4 of the '226 patent, it was explained at trial that the pusher bar (35) moves a clip (33) into the channels in the faces of the jaws (25). When a clip is in the jaws and the handles are closed, the external channel (38) moves forward over the beveled portion of the jaws, which, by virtue of their beveled shape, are squeezed together by the external channel, thus closing the clip. At the same time, the pusher bar moves back to engage the next clip in line. When the handle is released the channel withdraws, the jaws open and release the clipped tissue, and the pusher bar moves forward, positioning the next clip into the jaws. The operating components are shown in the patent as follows:

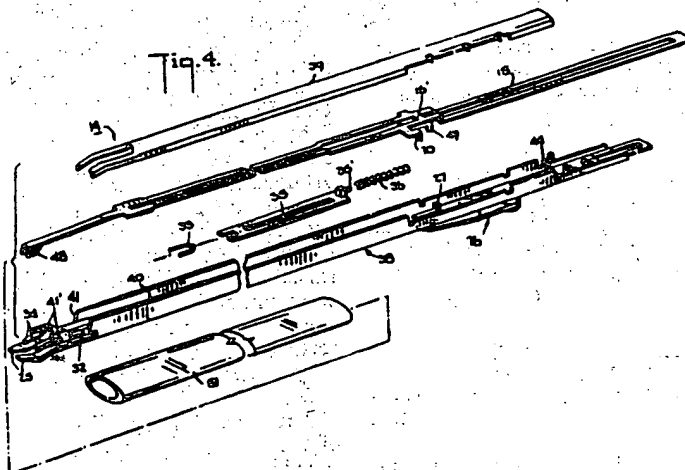
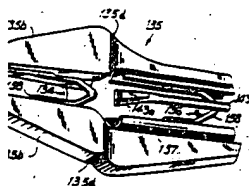


Fig 4 of 226 Patent

the grooves in the face of the jaws, to the clip, and the mechanism for closing the clip about the tissue to be ligated. Drawings of the jaws in the '226 patent and the '420/'057 patents show this assembly:

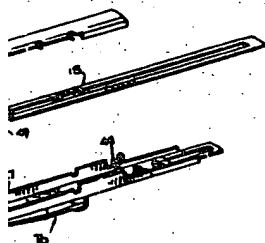
FIG. 19a



9a of 420 Patent

racted into the clip carrier for delivery of the foremost clip from the carrier upon release of the handles.

According to Fig. 4 of the '226 patent, it was established at trial that the pusher bar (35) moves a clip (33) into the channels in the faces of the jaws (25). When a clip is in the channels and the handles are closed, the external channel (38) moves forward over the beveled portion of the jaws, which, by virtue of their shape, are squeezed together by the external channel, thus closing the clip. At the same time, the pusher bar moves back to the next clip in line. When the handle is released, the channel withdraws, the jaws release the clipped tissue, and the pusher bar moves forward, positioning the clip into the jaws. The operating components shown in the patent as follows:



In the '226 patent, the clip carrier is described as "an elongated channel having a pair of side walls or rails between which the clips are slidably guided, a pusher which

slides between the rails, and a spring for biasing the pusher in the forward direction." Col. 4, lines 45-54. The corresponding assembly, shown in Fig. 18 of the '420 patent, was the subject of comparative testimony:

FIG. 18

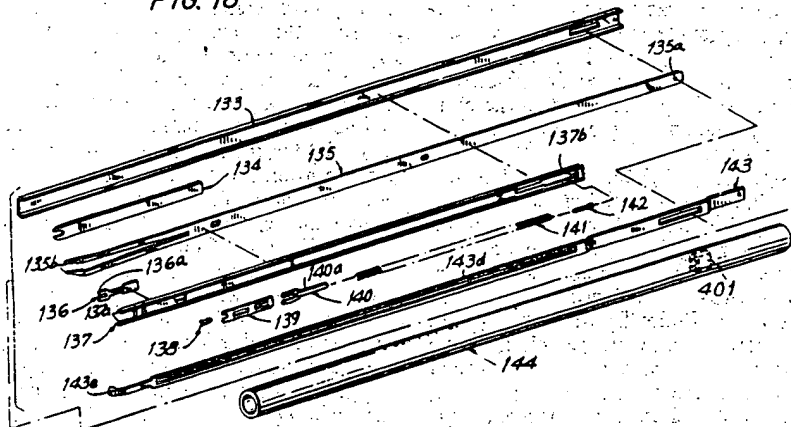


Fig 18 of 420 Patent

It was explained that the pusher bar (143) moves a ligating clip (138) into the channels in the faces of the jaws (135-b). When a clip is in the jaws and the handles are closed, the external channel (133) moves forward over the beveled portion of the jaws, squeezing them together and closing the clip.

To counter this evidence of similarity, U.S. Surgical witnesses testified that the '420/'057 instrument was not a routine adaptation of a prior instrument, and stressed the long development time and engineering difficulties involved in the conversion of the '226 device to endoscopic use. Ethicon challenged these arguments and their factual basis on cross-examination, and elicited testimony that the development time related primarily to unclaimed features of the handle.

There was testimony about the seal and how it was achieved. In its infringement case, U.S. Surgical argued that "valve means" in the '420 patent included any known means for sealing the clip applicator in the trocar, including valves and gaskets. U.S. Surgical argued at trial as stated in its proposed jury instruction construing this term for infringement purposes:

The structure for performing this [valve means] function includes all such structures contained in trocars known in the art at the time the '420 Patent Application was filed.

U.S. Surgical presented testimony to this effect at trial, thus providing substantial ba-

sis for the jury to find that the "valve means" of the '420 patent was known in the prior art. U.S. Surgical does not now dispute that the "valve means" of its '420 patent is found in prior art endoscopic instruments.

In the course of the extensive explanation and comparisons at trial of the prior art devices and the '420/'057 devices, there was no dispute concerning the content of the references or the structures that they described. There was no dispute concerning the structures described in the '420/'057 patents, or concerning the meaning of technical terms or words of art as used in the prior art or in the patents in suit. The jury was instructed that the technical terms had their plain meaning, as the district court mentioned in its opinion on the post-trial motions. U.S. Surgical did not proffer a particular "construction" of technical terms in order to distinguish the claimed inventions from prior art devices. Neither party departed from the plain meaning of the words that were used in the claims and in the specifications, and in the prior art. Although U.S. Surgical has raised on this appeal the issue of "claim construction," as we shall discuss *post*, there was no argument at trial as to the meaning of technical terms or words of art insofar as they concern the determination of obviousness.

There was opinion evidence on both sides of the question of obviousness. We turn to the objective factors, for as the district court instructed the jury, such evidence must be

considered in the determination of obviousness:

Objective Factors

Objective factors assist in understanding how the invention was viewed in its field of endeavor, and provide an important practical guide to the decisionmaker. It was explained to the jury that the context in which the invention arose and its reception in the marketplace are indicia of unobviousness, and must be considered.

Witnesses for U.S. Surgical testified that the EndoClip, a commercial embodiment of the '420/'057 patents, had revolutionized endoscopic surgery and made endoscopic gall bladder removal possible. Its commercial success was emphasized, and it was stressed that the EndoClip was the first and for some years the only endoscopic multiple clip applier on the market. U.S. Surgical pointed out that the most relevant prior art, viz. single clip appliers for endoscopic surgery and multiple clip appliers for open surgery, had existed for more than a decade before U.S. Surgical produced the EndoClip for endoscopic surgery. U.S. Surgical presented evidence of the rapid acceptance and adoption of new endoscopic procedures, based on its new multiple clip applier.

Witnesses for Ethicon testified that the growth of endoscopic surgery was due to the miniature video camera, not the multiple clip applier. They testified that before a tiny camera was available to televise images of the abdominal cavity, whereby a team of surgeons could operate with a common view of the surgical field, endoscopic surgery was largely limited to ligation of fallopian tubes, a simple procedure performed by a surgeon peering through an eyepiece. According to Ethicon, U.S. Surgical's EndoClip was developed for and had its only use for tubal ligation, and its later commercial growth was due to the sheer luck of being on the market when endoscopic surgery underwent its rapid expansion upon the capability of televising from inside the body.

Thus U.S. Surgical characterized its '420/'057 multiple clip applier as a pioneering advance in the field of endoscopic surgery, while Ethicon described the '420/'057 instrument as an obvious adaptation of a prior art multiple clip applier, whose commercial success was due to unrelated factors. These conflicting arguments were fully presented at trial. Witnesses, including surgeons, supported both sides. The jury was presented with questions of credibility and weight as well as factual disputes, as the jury decided whether the inventions of the claims

in suit would have been obvious to a person of ordinary skill in the field of the invention at the time the invention was made. Although there were indeed questions of credibility and weight of evidence, the jury was not required to choose between alternative meanings of technical terms or words of art, or decide the scope of the claims, in deciding the question of obviousness. The factual findings of the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the field of the invention, and the objective considerations, did not require "construction" of these claims as set forth in the *Markman* decisions of the Federal Circuit and the Supreme Court.

In reviewing the jury verdict of obviousness, we review whether the jury was correctly instructed on the law, and whether there was substantial evidence whereby a reasonable jury could have reached its verdict upon application of the correct law to the facts, *Railroad Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1512, 220 USPQ 929, 935-36 (Fed. Cir.), cert. denied, 469 U.S. 871 (1984), recognizing that invalidity must be proved by clear and convincing evidence. *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984). Thus we turn to the law, as presented at trial and as instructed by the trial judge.

The Jury Instructions

Jury instructions are reviewed for correctness, with due attention to their clarity, objectivity, and adequacy, taken as a whole. See *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1570, 24 USPQ2d 1401, 1411 (Fed. Cir. 1992) ("The correctness of a jury instruction . . . is reviewed on appeal to determine whether, on the whole, the jury instructions were adequate to ensure that the jury fully understood the legal issues for each element of the case."); *Trademark Research Corp. v. Maxwell Online, Inc.*, 995 F.2d 326, 339 (2d Cir. 1993) ("A trial court's improper charge constitutes reversible error only 'when jury instructions, taken as a whole, give the jury a misleading impression or inadequate understanding of the law.'") (quoting *Carvel Corp. v. Diversified Management Group, Inc.*, 930 F.2d 228, 232 (2d Cir. 1991)).

[1] The jury was correctly instructed on the presumption of validity, and that Ethicon bore the burden of proving invalidity by clear and convincing evidence. The jury was correctly instructed that in determining whether the inventions of the '420 and '057 patents

would have been obvious to a person of ordinary skill in the field of the invention at the time the invention was made. Although there were indeed questions of credibility of the evidence, the jury was not required to choose between alternative meanings of technical terms or words of art, to define the scope of the claims, in deciding the question of obviousness. The factual findings regarding the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the field of the invention, and the objective considerations, did not require "construction" of these claims as set forth in the opinions of the Federal Circuit and the Supreme Court.

On reviewing the jury verdict of obviousness, the court reviewed whether the jury was correctly instructed on the law, and whether there was substantial evidence whereby a reasonable jury could have reached its verdict upon application of the correct law to the facts. See *Id. Dynamics, Inc. v. A. Stucki Co.*, 1506, 1512, 220 USPQ 929, 935-36 (Fed. Cir. 1992), cert. denied, 469 U.S. 871 (1984), recognizing that invalidity must be proven by clear and convincing evidence. See *Elmer Corp. v. Computervision*, 732 F.2d 888, 893, 221 USPQ 669, 674 (Fed. Cir. 1984). Thus we turn to the jury instructions presented at trial and as instructed by the judge.

Jury Instructions

The jury instructions are reviewed for correctness with due attention to their clarity, obviousness, and adequacy, taken as a whole. See *Oketree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1570, 24 USPQ2d 1111 (Fed. Cir. 1992) ("The correctness of a jury instruction . . . is reviewed on appeal to determine whether, on the whole, the instructions were adequate to ensure that the jury fully understood the legal issues at stake. . . . element of the case."); *Trademark International Corp. v. Maxwell Online, Inc.*, 995 F.2d 339 (2d Cir. 1993) ("A trial court's improper charge constitutes reversible error only when jury instructions, taken as a whole, give the jury a misleading impression of the law or an inadequate understanding of the facts. . . . quoting *Carvel Corp. v. Diversified Food Products Group, Inc.*, 930 F.2d 228, 232 (1st Cir. 1991)).

The jury was correctly instructed on the question of validity, and that Ethicon bore the burden of proving invalidity by clear and convincing evidence. The jury was correctly instructed that in determining the obviousness of the '420 and '057 patents

were invalid based on obviousness, it was necessary to consider the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the art, and the objective criteria of unobviousness. The court correctly explained the *Graham* factors. See *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). For example, in determining the level of ordinary skill in the art the jury was instructed to consider

evidence submitted by the parties to show:

One, the educational level of active workers in the field;

Two, the types of problems encountered in the art;

Three, the nature of the prior art solutions to those problems;

Four, the activities of others;

Five, the rapidity with which innovations are made in the art;

And six, the sophistication of the technology involved.

The jury instructions included explanation of the principles to be applied in determining obviousness when the invention is a combination of prior art components. The court instructed that the prior art must show not only all of the elements of the claimed combination, but must contain some "teaching, suggestion or incentive" to a person of ordinary skill to combine the known elements in the way that U.S. Surgical combined them:

In order to prove obviousness, the defendants must prove, again by clear and convincing evidence, that one of ordinary skill in the art would have found in the prior art references some teaching, suggestion or incentive to combine the prior art references in the way that U.S. Surgical did in its invention.

The jury instructions stressed that the prior art, to be invalidating, must sufficiently teach or direct a person of ordinary skill how to obtain the result reached by the patentee:

Additionally, if you do find a teaching in the prior art that would motivate one of ordinary skill in the prior art to make the clip applier claimed in the '057 and '420 patents, you must also determine whether there was sufficient teaching or direction in the prior art of how to obtain or build the claimed clip applier such that a person of ordinary skill in the art would have a reasonable likelihood of success in making the invention. In other words, in order to find obviousness, you must find not only that the prior art would teach one of ordinary skill to try the combination of known elements, but also that the prior art would

sufficiently teach or direct one of ordinary skill how to obtain the desired result.

The jury was instructed that in determining obviousness it was to consider the claim as a whole, and that it did not suffice if the individual elements of the invention were known in the prior art:

The reason you must consider the claim as a whole is because there is no dispute that U.S. Surgical's invention is comprised of individual elements which were known in the prior art. The fact that U.S. Surgical's inventions incorporate or combine elements already known in the prior art does not render its patents invalid. Patents can be granted on devices that contain a combination of various elements that are well known in the prior art. U.S. Surgical's claim is that it invented the combination of those elements for the first time in the endoscopic multiple clip applier claimed in the patents in suit.

The instructions on the law of obviousness occupied eight pages of trial transcript. They were correct in law, thorough, and clearly stated. U.S. Surgical now argues that other instructions that it requested should also have been given, and that their omission requires a new trial. The district court explained its denial of these requests in its opinion on the post-trial motions.

U.S. Surgical had requested that the court read to the jury the sentence of 35 U.S.C. §103(a) that states: "Patentability shall not be negated by the manner in which the invention was made," accompanied by the instruction that the jury should give no weight to Ethicon's evidence of "how long or short a time it took to make [the invention]" and "how obvious U.S. Surgical's invention may have seemed to U.S. Surgical's own inventors." The court denied the request. We do not discern reversible error in this denial, for the rejected instruction was encompassed in the instructions that were given; was the subject of expert testimony, and was included in the argument. The court did not commit error in denying an instruction that gave weight to one of the several aspects that were before the jury, and was reasonably viewed as cumulative in the context of the instructions that were given.

U.S. Surgical also requested an instruction that the '226 patent was cumulative prior art and thus did not have to be cited to the patent examiner. In its pre-trial consideration of the issue of inequitable conduct the court, through a special master, had concluded that the '226 patent was cumulative in the circumstances and on the law that then applied in the examination of patents. Whatever the relevance of this point to the issue of

inequitable conduct, which had been decided in favor of U.S. Surgical, the '226 patent was correctly treated as prior art in this litigation. The denial of this instruction is not grounds for a new trial.

U.S. Surgical also requested the instruction that even if the jury found the absence of the secondary consideration of long-felt need, that was "in no way suggestive of obviousness or invalidity." The instruction that was given on the secondary considerations was:

In making these three determinations [the *Graham* factors] you must also consider other surrounding circumstances which are called secondary considerations. These include:

One, whether the alleged invention was commercially successful;

Two, whether the alleged invention satisfied a long-felt need in the art;

Three, whether others were unsuccessful in making the alleged invention;

Four, whether the alleged invention was copied by others in the art;

Five, whether the alleged invention received praise from others in the art;

Six, whether the alleged invention departed from other principles of the art.

In order to determine that secondary considerations such as commercial success are evidence of non-obviousness, there must be a causal connection between the patented features of the invention and the commercial success of the device. If commercial success is attributable to the patented features, then it is evidence of non-obviousness.

U.S. Surgical's requested instruction concerning long-felt need related to the weight to be given to a fact whose existence, and significance, was disputed at trial. The issue of the objective factors was complex and hard-fought at trial, leaving areas of dispute, weight, and perhaps credibility. We discern no error in the court's refusal to comment on a specific aspect, having instructed the jury on all aspects.

U.S. Surgical also requested the instruction that prior art that teaches away from the patented invention is evidence of nonobviousness. That subject was comprehended in the above-quoted instruction that the jury should consider "Six, whether the alleged invention departed from other principles of the art," an argument whose substance had been debated at trial. The refusal of this instruction, in light of the full instructions that were given, is not grounds for a new trial.

U.S. Surgical also states that the district court should have given a curative instruc-

tion to counter Ethicon's suggestion that the patents in suit improperly hindered competition. The record shows Ethicon's persistent and improper innuendos. However, U.S. Surgical reasonably countered this aspect with evidence and argument concerning the purpose of the patent system. Review of the record leads us to conclude, as apparently did the district court, that this tactic did not prejudice the outcome. See *City of New York v. Pullman, Inc.*, 662 F.2d 910, 917 (2d Cir. 1981) ("The district court is not obliged to charge every contention made by the parties at trial, as long as the charge itself, taken as a whole, is fundamentally fair.") (citations omitted), *cert. denied*, 454 U.S. 1164 (1982). The denial of these instructions (and others offered by both sides) was not a miscarriage of justice, and does not establish reversible error or grounds for a new trial.

U.S. Surgical also argued that its requested instructions construing the claims should have been given, and that the absence of "claim construction" by the district court required a new trial. In accordance with the Court's remand for further consideration in light of *Markman*, we have again reviewed the requested instructions to determine whether any instructions that were improperly refused could reasonably have prejudiced the jury's verdict of invalidity.

In evaluating the refused instructions, we look first at the instructions on claim construction that were given. The issue was interpretation of these means-plus-function claims and their application to find if there was infringement by the Ethicon devices. The district court instructed the jury how to interpret means-plus-function claim elements, and how to apply these claim elements to the accused devices, as follows:

Now, in interpreting the means plus function claim elements, you must determine the following:

One, what function is called for by the claim element, and

Two, what structure, or means, is described in the patent specifications for performing the stated function.

A means plus function claim is only infringed if:

One, the function of the accused device is identical to the function disclosed in the claim element of the patent; and

Two, the structure which performs that function in the accused device is the same as, or the equivalent of, the structure described in the patent specifications.

The second of these two steps requires you to determine whether the accused device includes the same structure as described in the patent or its equivalent. You

under Ethicon's suggestion that the suit improperly hindered competition. The record shows Ethicon's persistent improper innuendos. However, U.S. reasonably countered this aspect of the patent system. Review of the evidence and argument concerning the patent system. Review of the evidence leads us to conclude, as apparently the district court, that this tactic did not lead to the outcome. See *City of New Orleans v. United States*, 662 F.2d 910, 917 (2d Cir. 1981) ("The district court is not obliged to engage in every contention made by the parties, as long as the charge itself, taken as a whole, is fundamentally fair.") (cited), cert. denied, 454 U.S. 1164 (1981). The denial of these instructions (and the error by both sides) was not a miscarriage of justice, and does not establish error or grounds for a new trial. Ethicon also argued that its request for instructions construing the claims should be given, and that the absence of such instructions by the district court was error. In accordance with the standard for further consideration in *Markman*, we have again reviewed the district court's instructions to determine if any instructions that were improper could reasonably have prejudiced the jury's verdict of invalidity. In the refused instructions, we stated that the instructions on claim construction were given. The issue was one of these means-plus-function claims. Their application to find if there was infringement by the Ethicon devices. The district court instructed the jury how to construe means-plus-function claim elements. How to apply these claim elements to the accused devices, as follows: In interpreting the means plus function claim elements, you must determine the function called for by the claim, and that structure, or means, is defined by the patent specifications for performing the stated function. A means-plus-function claim is only valid if: 1) the function of the accused device is the same as the function disclosed in the patent; and 2) the structure which performs that function in the accused device is the same as the structure disclosed in the patent specifications. One of these two steps requires determining whether the accused device has the same structure as the patent or its equivalent. You

may determine that a structure in the Ethicon device is equivalent if you determine that a person of ordinary skill in the art would consider the structure found in the accused device an insubstantial change from the structure disclosed in the patent specification.

This aspect did not concern, or determine, validity in this case. However, U.S. Surgical states that *Markman* requires the trial judge to perform the first portion of this instruction, that is, to determine the function and the structure or means that performs the function, and to give a detailed technical analysis for the infringement portion of the instruction; and that failure to do so fatally flawed the trial.

For example, U.S. Surgical requested instructions for the first element of claim 1 of the '057 patent, starting with the following proposed claim construction:

Clause i) of claim element 1b) reads "means for storing a plurality of surgical clips." This is a means-plus-function claim element. The stated function, as I interpret it, is to store a plurality of surgical clips.

We observe that this part of the proposed claim construction merely repeats the words of the claim. The requested instruction then told the jury what structure was described in the patent specification for performing this function:

The structure or means disclosed in the patent specification for performing this function is a clip track which holds an array of surgical clips and a spring to bias the clips toward the distal or far end of the instrument.

This information from the specification resolved no dispute, for there was none. Next, the requested instruction told the jury how to find infringement: the same instruction as in the general jury instruction that was actually given, quoted *supra*, but now drawn specifically to this claim element:

In order to find that this claim element of the '057 patent has been met, you must first find that defendants' accused devices perform the function of storing a plurality of clips. Then you must find that the defendants' accused devices have a clip track which holds an array of surgical clips and a spring to bias the clips toward the distal or far end of the instrument, or equivalent structure, which performs this function.

This text, again, repeated the function in the same words as in the claim, and repeated the undisputed description in the specification. The requested instruction then stated that if the accused devices perform this function,

using the described means or an equivalent means, there is infringement. That is the same instruction as in the general instruction that was actually given, but made specific to this claim element. We doubt that *Markman* requires the trial judge to instruct as to an undisputed "claim construction" for every term, by simply parroting the words of the claim and then repeating the rule concerning infringement of means-plus-function claims. *Markman* explicitly recognized that the application of the claim to the accused device was for the jury. Indeed, Ethicon objected to this instruction as an improper attempt to direct the jury findings of infringement.

Similar instructions were proffered for the other claim elements. Another rejected instruction started with a similar repetition of the words of the claim as "interpreted" by the judge, and an undisputed restatement of what these words mean:

The final clause of claim element b) ii) calls for "clip closing means for sequentially closing said surgical clips." This is a means-plus-function claim element. The stated function of this particular means-plus-function claim element is "sequentially closing said surgical clips." I interpret this to mean the closing of surgical clips one at a time and one after the other.

In the infringement trial, the issue was not the definition of "sequentially," but the equivalency of the means that was described in the specification with the means that was used in the accused device, and issues concerning the clip advancing means. These aspects do not relate to obviousness, but to infringement. The additional text of this proposed instruction was objected to on its merits by Ethicon as an incorrect application of the law of 35 U.S.C. § 112 ¶6. However, this aspect raised no disputed issues with respect to the determination of obviousness in view of the prior art. The dispute concerning the requested instructions related not to the prior art, but to the accused Ethicon devices.

Following is another claim element whose proffered "interpretation" was to repeat the words of the claim:

Claim element a) calls for a trocar having a cannula with valve means for sealing the cannula. The claim element "valve means for sealing said cannula" is a means-plus-function claim element. The stated function, as I interpret it, is to seal the cannula.

There were infringement disputes concerning the valve means, and there was much debate at trial concerning the scope of this claim element as applied to Ethicon's devices. U.S. Surgical requested the instruction that the "valve means" includes and is infringed by all prior art valves and gaskets

and any other known structures for sealing the cannula:

The structure for performing this function includes all such structures contained in trocars known in the art at the time the '420 Patent Application was filed. Such trocars contain structures both to seal the cannula when no instrument is in the cannula, such as a flapper-type valve, and structures which form a seal between the instrument and the cannula when an instrument is inserted in the cannula, such as a gasket. The flapper valve may engage the gasket, as in the U.S. Surgical Surgical Trocar, or be separate from the gasket, as in reusable instruments that were known at the time the '420 Patent Application was filed. Therefore, if you find that the Ethicon Endopath Trocar is a trocar having the same or equivalent structure to the structures I have just described, then the accused devices satisfy claim element a) of Claim 1 of the '420 Patent.

We referred *supra* to this requested instruction, for it makes clear that validity of the U.S. Surgical patents was not grounded on asserted unobviousness of the valve means, and that a reasonable jury could have so found. The district court had left to the jury the issue of breadth of the valve means as it affected infringement, for Ethicon had vigorously objected to this instruction as prejudging the finding of infringement. In his post-trial opinion, the district judge expressed the view that the jury had accepted U.S. Surgical's construction of the valve means since it found infringement of the '420 patent claim. We do not reach the issue of infringement. However, whether the valve means was construed as broadly as U.S. Surgical requested, or quite narrowly as Ethicon had argued, the variety of valve structures shown in the prior art was in accordance with the jury's finding of obviousness in light of the prior art.

[2] The *Markman* decisions do not hold that the trial judge must repeat or restate every claim term in order to comply with the ruling that claim construction is for the court. Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy. Although claim construction may occasionally be necessary in obviousness determinations, when the meaning or scope of technical terms and words of art is unclear and in dispute and requires resolution in order to determine obviousness, in this case none of these rejected instructions was di-

rected to, or has been shown reasonably to affect, the determination of obviousness.

Grounds for a new trial have not been shown. See *Santa Maria v. Metro-North Commuter R.R.*, 81 F.3d 265, 273 (2d Cir. 1996) ("A new trial must be granted if the court determines that 'the verdict is against the weight of the evidence, that the damages are excessive, or that, for other reasons, the trial was not fair to the party moving.'") (quoting *Montgomery Ward & Co. v. Duncan*, 311 U.S. 243, 251 (1940)); *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 626, 225 USPQ 634, 643 (Fed. Cir. 1985) ("If prejudicial error occurred, or if the verdict is against the clear weight of the evidence, as an alternative to judgment n.o.v. a new trial may be granted, in the discretion of the trial judge.") (citing *Fairmont Glass Works v. Cub Fork Coal Co.*, 287 U.S. 474 (1933)).

We have not been shown prejudicial error in the jury instructions, or that the verdict of obviousness is against the clear weight of the evidence, or that substantial justice requires that the trial be voided.

The Dictionary

During its deliberations the jury requested a dictionary and, over the objections of both parties, was provided one by the court. U.S. Surgical states this is reversible error, while Ethicon states that any error was harmless.

U.S. Surgical proposes that the jury might have used the dictionary to look up definitions on which it had been instructed by the court or that had been explained by witnesses, such as "presumption" or "obviousness." The jury was instructed, as the parties agreed, to consider the ordinary meaning of the language used in the claims. U.S. Surgical does not mention any terms that were used outside of their ordinary meaning. The district court pointed out in its post-trial opinion that the instruction to consider the ordinary meaning, and the general assumption that definitions in a standard dictionary are common knowledge with which the jury is charged, support the provision of the dictionary.

[3] It is generally agreed that the provision of a dictionary to a jury, although not favored, is not grounds for a new trial. See *Wernsing v. General Motors Corp.*, 470 A.2d 802, 806 (Md. 1984) ("It appears to be the near universal consensus that a new trial is not awarded simply because a dictionary was before the jury.") (citing cases). U.S. Surgical offered no specifics as to words whose dictionary definitions may have adversely affected the verdict of obviousness.

to, or has been shown reasonably to be determination of obviousness.

nds for a new trial have not been. See *Santa Maria v. Metro-North R.R.*, 81 F.3d 265, 273 (2d Cir. 1994). "A new trial must be granted if the verdict is against the weight of the evidence, that the damages are excessive, or that, for other reasons, the verdict is not fair to the party moving." (*Montgomery Ward & Co. v. Dunham Bros. Dept. Store*, 323 U.S. 243, 251 (1940)); *Shatterglass Corp. v. Libbey-Owens-Ford Corp.*, 752 F.2d 613, 626, 225 USPQ 634, 643 (2d Cir. 1985) ("If prejudicial error occurs if the verdict is against the clear weight of the evidence, as an alternative to a new trial may be granted, discretion of the trial judge.") (citing *Glass Works v. Cub Fork Coal*, 241 U.S. 474 (1933)).

ve not been shown prejudicial error by instructions, or that the verdict of the jury is against the clear weight of the evidence, or that substantial justice requires a new trial be voided.

Ordinary

its deliberations the jury requested a new trial, and, over the objections of both parties, provided one by the court. U.S. Surgical states this is reversible error, while Ethicon argues that any error was harmless. U.S. Surgical proposes that the jury might have been instructed to look up definitions in a dictionary which it had been instructed by the court that had been explained by witnesses as "presumption" or "obviousness." The jury was instructed, as the parties contend, to consider the ordinary meaning of the words used in the claims. U.S. Surgical does not mention any terms that were not in the ordinary meaning. The district court pointed out in its post-trial decision that the instruction to consider the meaning, and the general assumptions in a standard dictionary are not knowledge with which the jury is presumed to support the provision of the

generally agreed that the provision of a dictionary to a jury, although not a ground for a new trial. See *General Motors Corp.*, 470 F.2d 1066 (Md. 1973) ("It appears to be a general consensus that a new trial is granted simply because a dictionary was not used by the jury.") (citing cases). U.S. Surgical offered no specifics as to words or definitions that may have affected the verdict of obviousness.

Instead, U.S. Surgical seeks a presumption of prejudice and an automatic new trial.

Both sides cite *United States v. Weiss*, 752 F.2d 777 (2d Cir. 1985), as stating the controlling law in the Second Circuit, and each side argues that *Weiss* supports its position. In *Weiss* a criminal defendant was convicted of mail fraud, perjury, and RICO violations, and the jury obtained accounting books without the judge's knowledge or consent. Although the Second Circuit stated that "extra-record information that comes to the attention of a juror is presumptively prejudicial," 752 F.2d at 782-83, the court held that the trial judge's determination that the information had not prejudiced the defendant was not an abuse of discretion, and sustained the conviction.

U.S. Surgical argues that the practice of permitting the jury to have a dictionary would undermine the patentee's right to be its own lexicographer, and thus constitutes reversible error. However, U.S. Surgical does not direct us to any actual or reasonably possible prejudice, or any suggestion that the jury disregarded the court's instructions on the law of obviousness, or the plain meaning of the terms used in the claims and the prior art. Instead, U.S. Surgical argues that it was Ethicon's burden to establish that the jury did not misuse the dictionary, and that since that burden can not be met a new trial is required. However, the holding in *Weiss* was not for an automatic new trial. *Weiss* did not divest the trial judge of authority to decide whether the error, in that case viewed as juror misconduct, was in fact prejudicial.

The district court did not commit prejudicial error by providing the dictionary. A new trial on this ground is not warranted.

The Post-Trial Motions

Upon post-trial motions the district court, in a 34-page opinion, discussed validity and infringement. With respect to validity the court discussed the positions of the parties on the teachings of the prior art, the differences between the prior art and the patented inventions, and how the inventions as a whole would have been viewed by a person of ordinary skill in that art.

The district court summarized the evidence that the prior art would have suggested the combination claimed in the '420 patent. The court referred to Ethicon's position that U.S. Surgical had adapted its own multiple clip applier to endoscopic use, and the testimony that the only significant difference from the prior art multiple clip applier was the elongation of the shaft and the seal, and that these were common to all endoscopic instruments.

The district court explained its conclusion that there was substantial evidence in support of the jury verdict of obviousness of the claims in suit. The court also explained its conclusion that the requirements of a new trial had not been met: that the verdict was not against the weight of evidence, that there was not a miscarriage of justice or prejudicial error during trial, or a seriously erroneous result.

The Motion Upon Remand

Following the remand from the Supreme Court to the Federal Circuit, U.S. Surgical moved this court to vacate the district court's judgment and order a new trial, on the ground that since the district court had not construed the claims as required by *Markman*, either before or after the jury rendered its verdicts, there is nothing for the Federal Circuit to review on appeal. U.S. Surgical states that it is entitled to a new trial of all issues of validity and infringement except for the verdicts in its favor (infringement of the '420 patent and that there was not inequitable conduct) for which Ethicon did not petition for *certiorari*.

Ethicon, opposing the motion, points out that the district court, in its opinion on the post-trial motions, discussed the claim construction that the jury necessarily adopted on the two aspects of claim scope that were in genuine dispute as applied to the Ethicon devices. Ethicon points out that the district court stated that it agreed with the jury's necessary constructions with respect to the valve means and the clip advancing means, and that the court explained its reasons for sustaining the verdicts based on those constructions. Ethicon points out that under *Markman* this court undertakes to perform any necessary claim construction *de novo*. Ethicon also points out that no disputed claim construction was material to the determination of obviousness.

[4] Concerning U.S. Surgical's proposed instructions on claim construction, as we have discussed, whatever their applicability to the issues of infringement, their omission did not prejudice the issue of obviousness. *Markman* did not hold that the trial judge must always parse the claims for the jury, whether or not there is an issue in material dispute as to the meaning or scope of the claims. Neither this court nor the Supreme Court held that the trial judge must conduct such a rote exercise, on pain of having to retry the case.

Ethicon had objected to the substance of U.S. Surgical's proposed instructions, as well as asserting that they were unnecessary. We need not resolve this issue, for U.S. Surgical

has not shown that there are unclear or ambiguous technical terms or words of art or related aspects of claim scope whose "construction" as requested by U.S. Surgical would negate the verdicts of obviousness. The jury was instructed, without objection, that the language of the claims was to have its plain meaning. There was no dispute as to the meaning of technical terms or words of art as used in either the prior art or the claims. The difference between the prior art and the claimed invention is a question of fact, *Graham*, 383 U.S. at 17, 148 USPQ at 467, and was not overruled by the Court's *Markman* decision.

U.S. Surgical argues that if the district court had construed the claims for the jury, the jury could not have reasonably accepted Ethicon's argument that U.S. Surgical had simply made known endoscopic adjustments in its prior art multiple clip applier. This went to the ultimate question of obviousness, which was decided by the jury upon finding and weighing and evaluating the factual evidence of the *Graham* factors. U.S. Surgical does not explain how any reasonable claim construction that it requested would have deprived the verdict of obviousness of its support. Further, *Markman* does not authorize the trial judge to remove from the jury the factual findings required by *Graham*.

On careful consideration of the substance of the instructions on claim construction that the district court declined to give, and the instructions on the issue of obviousness, all in light of the particular issues in this case concerning the prior art, the claimed invention, and the Court's discussion in *Markman*, we conclude that the omission of the requested instructions did not prejudice the determination of obviousness. The criteria for grant of a new trial have not been met. See *Santa Maria*, 81 F.3d at 273; *Shatterproof Glass*, 758 F.2d at 626, 225 USPQ at 643 (new trial appropriate when there was prejudicial error, or when verdict against weight of the evidence).

Conclusion

On review of the proceedings at trial, we conclude that there was substantial evidence from which a reasonable jury could have held that the claimed subject matter would have been obvious to a person of ordinary skill in this field at the time the invention was made. The judgment of invalidity is affirmed.

The case was vigorously litigated, with extensive testimony, physical exhibits, and argument. We have been directed to no unfairness or incompleteness or prejudice in the

jury instructions with respect to obviousness. A new trial was properly denied.

Costs

Costs to Ethicon.

**AFFIRMED; MOTION FOR
NEW TRIAL DENIED.**

**U.S. Court of Appeals
Federal Circuit**

Micro Chemical Inc. v. Great Plains
Chemical Co.

Nos. 95-1504, -1514

Decided January 3, 1997

PATENTS

1. Patentability/Validity — Anticipation — Prior sale — Degree of development (§115.0707.05)

Federal district court erred in holding patent directed to method and apparatus for adding small amounts of ingredients to livestock or poultry feed invalid under on-sale bar of 35 USC 102 based on inventor's offer, before critical date, to sell weighing machine to feedlot manager, since at time of alleged offer, inventor had not reduced invention of patent to practice, had not substantially completed invention, and had not demonstrated high likelihood that invention would work for its intended purpose, and since inventor's "offer" therefore could not trigger on-sale bar.

2. Patentability/Validity — Obviousness — Relevant prior art — Particular inven- tions (§115.0903.03)

Patentability/Validity — Obviousness — Combining references (§115.0905)

Patent directed to method and apparatus for adding small amounts of ingredients to livestock or poultry feed would not have been obvious in view of prior art weighing machine and prior art volume machines in combination, since there is no evidence of motivation or suggestion to combine prior art machines, since motion of mixing elements in volume machine would have been expected to cause inaccurate weighing, and prior art therefore led away from idea of combining features of weighing and volume machines, and since inventor's extensive efforts to solve problem of isolating weighing system tend to show that one skilled in art would